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USSR Report

ENERGY

No. 101

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FUELS

WORK OF USSR MINISTRY OF GEOLOGY EXPLAINED

Moscow NEFTYANIK in Russian No 3, Mar 82 pp 8-9

[Interview with Roman Avakovich Sumbatov, deputy minister of Geology of the USSR, on the occasion of the eve of the first Sunday in April, Day of Geologist, by correspondent A. Galin ; place not specified]

> [Text] On the eve of the professional holiday of prospectors of the depths, Day of the Geologist, which is celebrated annually on the first Sunday in April, Deputy Minister of Geology of the USSR, Roman Avakovich Sumbatov, answers the questions of the special correspondent of the press center of the USSR Ministry of Geology A. Galin at the request of the journal's editorial staff.

[Question] Roman Avakovich, it would be interesting, of course, for the readers of NEFTYANIK to find out how the decisions of the 26th CPSU Congress are being fulfilled in the area concerning search and exploration of the oil and gas fields.

[Answer] I would like to draw attention first of all to the fact that the organizations of the USSR Ministry of Geology have been involved in search and exploration not only of oil and gas deposits, but have been preparing for the operation of fields for all sectors without exception which are extracting minerals. If we speak about fuel and energy resources, then, in addition to oil and gas deposits, the geologists are also finding coal fields. Iron and titanium fields are being explored for the Ministry of Ferrous Metallurgy, copper, lead and other nonferrous and rare metals for the Ministry of Nonferrous Metallurgy, sand, gravel, limestone fields for the Ministry of Construction Materials Industry, and so forth. I could name many more ministries for whom the geologists are seeking raw materials. But there is one mineral which everyone needs equally. This is water. The geologists supply industry and agriculture, cities and population points with fields of underground water.

I consider it necessary to mention in connection with the holiday of the Day of the Geologist that the geologists are also among the workers in the extracting sectors of the national economy. They participate in search and exploration work and are a fullfledged component part of the vast "geological family." I am taking this opportunity to congratulate our colleagues from the Ministry of the Oil Industry and the Ministry of the Gas Industry on the professional holiday of explorers of the depths, and I wish them success.

In passing to the conversation regarding the oil and gas fields, I would like to stress that in accordance with the decisions of the 26th CPSU Congress, the USSR Ministry of Geology is focusing especial attention on increasing the explored reserves of fuel and energy raw material. Several dozen new oil and gas fields were discovered in the first year of the 11th Five-Year Plan. West Siberia still remains the main region for oil and gas exploration.

Considerable attention has been paid to the geological exploration in such a promising region as the Caspian lowland. Exploration of the largest Astrakhan gas condensate field has continued here. It will be the basis for an industrial center. Exploration is also continuing in the Karachaganakskoye gas condensate and the Zhanazholskiy oil and gas fields.

The confirmation of gas reserves in Uzbekistan's largest Shurtan field has become the great success in the first year of the new five-year plan. It has taken the place of "palm-bearer" from the Gazli field. Shurtan is already supplying gas to the Syr-Dar'ya GRES. The Turkmen geologists have already attained excellent results. Last year they confirmed reserves of Central Asia's largest Dauletabad-Donmez gas field of complex geological structure. It does not yet have analogs in our country. The gas of Dauletabad-Donmez is of good quality and does not contain sulfur.

Geological exploration has also been successful in other oil and gas regions of the country: in the Timano-Pechora province which encompasses the territory of the Komi ASSR and the Arkhangel'skaya Oblast, the Dneprovsko-Donetsk depression in the Ukraine and in other regions.

A lot of attention was focused in the past year on the development of geological exploration for oil and gas in East Siberia. The first interesting results have already been obtained.

[Question] Could you relate in more detail about the geological exploration for oil and gas in Siberia?

[Answer] West Siberia today is the main supplier of oil and gas in the country. The task of the geologists is therefore to guarantee the planned growth in oil and gas extraction with the necessary reserves. The geological explorers of Glavtyumengeologiya have applied all their efforts to cope with this task.

They drilled over 100,000 m of wells more last year than in 1980. Geophysical work was further developed. The geologists are penetrating into deeper stratigraphic levels and are moving farther to the north, finding the fuel and energy storehouses of the arctic peninsulas of Yamal and Gydanskiy.

The geological exploration in East Siberia has another nature. Geological research is at the basic stage in the immense spaces of the Krasnoyarskiy

Kray and the Irkutskaya Oblast. Our task is to realize the high forecasting assessments that the scientists made, and to find the oil and gas regions and fields. A solid reserve must be prepared for oil and gas extraction in this region in the future, 12th Five-Year Plan.

But we should bear in mind that East Siberia has a very complicated geological structure which is not easily decoded. The earth's crust here consists of rocks that are difficult to drill in a technical sense. The geophysicists have also had a hard time in East Siberia. The permafrost rocks which encompass vast territories extend to a depth of over a kilometer. I am no longer speaking of geographical-climate conditions which are considerably more complicated than in West Siberia. The period of summer navigation on the East Siberian rivers is extremely short. And since other transport passages are practically missing, the material and technical support of the geological exploration is associated with great difficulties. Nevertheless, in overcoming them, the organizations of the USSR Ministry of Geology are developing exploration here more extensively, and results have already been obtained which can be considered promising.

[Question] What tasks are facing the geologists and prospectors of oil and gas in the coming years?

[Answer] In accordance with the Basic Directions for Economic and Social Development of the USSR for 1981-1985 and for the Period to 1990, the USSR Ministry of Geology plans to strengthen geological exploration for oil and gas in West and East Siberia, the European sector of the USSR, in Central Asia and in Kazakhstan. The tasks of the geologists in each of these vast regions of the country are diverse.

In order to solve them, and with regard for the entrance into new regions that have been poorly studied and have a complicated geological structure, it is planned in the 11th Five-Year Plan to increase the volume of drilling in the USSR Ministry of Geology 1.5-1.6-fold, and the volume of allocations for geological exploration 1.7-fold.

Progressive types of geophysical and geochemical studies need to be developed at faster rates. The potentialities of the aerial high-altitude and space vehicles need to be more extensively utilized. Methods of accelerated geological and economic evaluation of the oil and gas fields should be developed and employed. Further technical re-equipping of the geological exploration organizations should be guaranteed: equipping them with highly efficient equipment, apparatus and transportation vehicles.

[Question] Roman Avakovich, what is the cooperation among geologists and how is it being implemented, on the one hand, and between the oil and gas workers on the other hand?

[Answer] We have a distinct "division of labor" in the joint work to provide the country with fuel and energy raw material. The geologists are the first in the work. They search for and find oil and gas deposits, then explore them, compute the reserves and confirm them in the State Commission for

Mineral Reserves of the USSR Council of Ministers. Then it is the turn of the oil and gas workers who conduct the extracting on these fields.

This principle is upheld in practically all the new oil and gas extracting regions which have been developed in the last 15 years: West Siberia, Timano-Pechora province, Magyshlak, Belorussia, Udmurtiya and others. The geologist was the first to step there. Then came the operators, and the oil and gas they extracted began to flow in a continuous stream to the plants, factories and power plants.

The Ministries of Geology, Oil and Gas Industries have a bearing essentially on spheres of their activity, in production, in scientific and in technical. But so that the same work is not done twice or even three times, there is a distribution of functions. I will explain what I have in mind. The Ministry of the Oil Industry is the chief for drilling. That is, it is the legislator in the area of creating new technical means and technology of drilling. The scientific research institutes of the ministry develop new designs of drilling bits and stoping hydraulic engines, new compositions of drilling and cement solutions, and new types of drilling and casing pipes. But, of course, the colleagues of the USSR Ministry of Geology and the Ministry of the Gas Industry, the scientists and production engineers of these ministries are included in the interdepartmental commission on drilling equipment and participate in the coordination meetings on questions of creating this equipment. We have the most direct and closest ties with the scientific research institutes of the Ministry of the Oil Industry, and in particular, with the All-Union Scientific Research Institute of Drilling Equipment, VNIIBT. If necessary, the geological organizations work with the VNIIBT on a contract basis in order to find the optimal drilling regimes, select the necessary types of bits, increase the percentage of core sample output, etc. Contracts with the VNIIBT have been concluded by the geological organizations of the Ukraine, Central Asia, Belorussia and Lithuania. It should be noted, for example, that the VNIIBT has developed the draft of the Kola superdeep well.

In another most important area, geophysics, which we could not do without in the search, exploration and development of oil and gas deposits, the USSR Ministry of Geology is the chief. The scientific research, design and production organizations of the ministry develop new geophysical equipment and apparatus and are completely responsible for their technical level. The oil and gas fields of West Siberia, Northern Caucasus, Volga region and other areas in the country use the logging stations, well geophysical instruments and many other types of apparatus which have been developed in the organizations of the USSR Ministry of Geology.

[Question] You mentioned the Kola well. Please tell us about the superdeep drilling that the USSR Ministry of Geology is doing.

[Answer] Among the many tasks which the geologists have to solve, there is investigation of the earth's depths, knowledge of the structure, composition and evolution of the earth as a whole. It is therefore natural that the USSR Ministry of Geology and its organizations are primarily doing the superdeep drilling.

The Kola well has currently reached a depth of 11 kilometers. Even the most industrially developed capitalist country, the United States of America, does not have a well more than 10 kilometers deep. The Kola well has provided unique material on the structure of the earth's crust. New data have been obtained on the stratigraphy of the precambrian formations. Zones of copper and polymetallic mineralization have been found at depths of 6500-9500 m. It was previously believed that these ores could only be located in the upper layers of the earth's crust. This is a very important conclusion for the development of a science on the formation of mineral fields and for practical work in searching for ores.

A new generation of geophysical instruments has been created especially for the Kola superdeep well. There are unique ones. Twenty-six types of geophyscial and six types of geochemical observations are being made at the well. Forty-two chemical elements are being defined. The Kola well on the whole will yield the most important information for interpreting the results of geophysical research.

The "breaking in" of new technical equipment at the Kola well and working out of the technology of superdeep drilling are very important for the future. This will be necessary in the future for the Ministries of Geology, Oil and Gas Industries for drilling deep and superdeep wells in searching, exploring and operating oil and gas fields.

On the threshold of the Day of the Geologist, the journal publishes other materials on the work and life of the discoverers of the depth: essay of V. Lozoviy on the drilling foreman from Kazakhstan A. Volochayev (p 22), story about the work of the Palace of Science, Technology and Culture in the VNIIGIS in Oktyabr'skiy (p 27) and the report of M. Pleskachevskiy on drilling the superdeep well in Saatly (p 10).

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REPORTS FROM SECOND CONGRESS OF OIL, GAS INDUSTRY WORKERS TRADE UNION

Moscow STROITEL'STVO TRUBOPROVODOV in Russian No 3, Mar 82 pp 2-7

[Article: "Congress of Oil and Gas Industry Workers' Trade Union"]

[Text] The trade union of the oil and gas industry workers has an important role in the successful fulfillment of the large-scale tasks to develop the country's fuel and energy complex.

The results of work in the last 5 years, the outlook for development of the oil and gas industry, construction of enterprises for these sectors, and ways to fulfill the planned programs were examined at the second congress of the trade union of oil and gas industry workers.

There were 542 delegates, representatives of 26 nationalities and peoples of our country participating in the work of the congress. Orders and medals of the Soviet Union were awarded to 285 delegates. Among them were 26 Heroes of Socialist Labor and 17 USSR State Prize laureates and Leninist Komsomol laureates.

The chairman of the central committee of the oil and gas industry workers' trade union V. T. Sedenko gave the accountability report.

The secretary of the CPSU Central Committee V. I. Dolgikh, Deputy Chairman of the USSR Council of Ministers V. E. Dymshits, USSR Minister of the Oil Industry N. A. Mal'tsev, USSR Ministry of Construction of Oil and Gas Industry Enterprises B. Ye. Shcherbina, First Deputy Head of the section of the CPSU Central Committee I. P. Yastrebov, and First Deputy Minister of the USSR Gas Industry Yu. V. Zaytsev participated in the work of the congress.

Twenty-eight delegates spoke at the second congress of the trade union in the discussions of the Central Committee report. There was a detailed discussion of the tasks set before the workers of the sector in the 11th Five-Year Plan, and about the increased role of the trade union organizations in solving production and social problems. The specific contribution of the trade unions to the development of the socialist competition, the dissemination of valuable initiatives, and the introduction of the leading experience and creation of conditions for efficient work were discussed. Giving proper due to what had been attained, the delegates concentrated attention on unresolved questions. They indicated that the reserves for improving the efficiency of production, growth in labor productivity, and conservation of material and labor resources had not yet been completely utilized. The need for concern about fulfilling the production tasks combined with concern for improving the working conditions, daily life and recreation of the workers was stressed.

The congress defined the ways to improve the activity of the trade union organizations and increase their role in the communist education of the workers. The congress elected the new trade union central committee, revision commission and delegates to the 17th USSR Trade Union Congress.

The congress delegates appealed to the workers, engineering-technical workers and clerical workers of the oil and gas industry, and construction of the enterprises in these sectors to use the example of the leading collectives and be actively involved in the socialist competition for fulfillment and overfulfillment of the planned assignments and socialist commitments for 1982 and the five-year plan as a whole, and to meet the 60th anniversary of formation of the USSR with new labor success.

In the name of all the oil workers, gas workers and builders, the delegates of the Second Trade Union Congress assured the Leninist Communist Party Central Committee, and Comrade L. I. Brezhnev personally that they will apply their efforts, knowledge and experience to implement the decisions of the 26th CPSU Congress and the November (1981) Plenum of the CPSU Central Committee for accelerated development of the country's fuel and energy complex and will mark the five-year plan with intensive labor.

Chairman of the Central Committee of the oil and gas industry workers' trade union, V. T. Sedenko in the accountability report noted that the period which has elapsed since the time of the First Trade Union Congress has been characterized by a strengthening of the trade union and its increased role in elevating production, implementing the transition to primary use of the intensive growth factors of the economy, and improving the standard of living of the workers.

The trade union central committee focused primary attention in the area of economic work on the further development of labor activity of the masses, mobilization of their efforts at fulfilling the state planned assignments, and realization of the task set by the party: all possible increase in the efficiency and quality of work.

The workers of the gas industry fulfilled the assignment for the 10th Five-Year Plan for gas extraction ahead of schedule. A total of 20 billion m^3 of gas were extracted in the country above the assignment. The five-year assignment for oil extraction was overfulfilled by the Ministry of the Oil Industry according to the total of the annual plans. A total of 5.4 million m of wells more than the assignment were drilled.

The organizations and enterprises of the Ministry of Construction of Oil and Gas Industry Enterprises made a significant contribution to the development of the oil and gas industry. The five-year program for construction and installation work was fulfilled ahead of schedule. The most important gas transport systems and oil trunklines were built.

A large program of housing and cultural-general construction was successfully completed.

The realization of the decisions of the 25th CPSU Congress for further development of the country's fuel and energy base in West Siberia is a major achievement. During the 10th Five-Year Plan the annual oil extraction in this region rose by 164.6 million T, or 2.1-fold, and gas rose by 120 billion m^3, or 4.4-fold.

The trade union Central Committee, Comrade V. T. Sedenko further said, paid a lot of attention to the further development and improvement in socialist competition, the movement for a communist attitude towards labor, the introduction of the leading experience in work, and all possible involvement of the workers in production control. In the development of conditions for all-union competition jointly with the ministries, its main aims, goals, tasks, forms and types were defined based on the specific tasks for development of the sector. The circle of participants of the sector competition was widened. The collectives of comprehensive production lines, sovkhozes and auxiliary services were included in the competitors in the Ministry of Construction of Oil and Gas Industry Enterprises.

The broad development of socialist competition promoted the successful fulfillment of the plan for the first year of the 11th Five-Year Plan. During 1981, about 1.5 million T of oil and gas condensate were extracted above the plan, over 7 billion m^3 of gas. The Ministry of Construction of Oil and Gas Industry Enterprises overfulfilled the plan for the volume of contract construction and installation work. The Urengoy-Gryazovets-MOK [Moscow Oblast Office] and the linear section of the Urengoy-Petrovsk gas pipelines were constructed ahead of schedule. The collectives of Glavsibtruboprovodstroy, Glavvostoktruboprovodstroy and many others are in the forefront of the socialist competition.

The movement for a communist attitude towards labor was further developed. Eighty-four enterprises and organizations, 4676 shops and 15,469 brigades were awarded the title of collectives of communist labor. However, the proper level of organization of socialist competition and its clear directivity at fulfillment of the adopted commitments were not guaranteed in a number of subdivisions. Certain trusts in the Ministry of Construction of Oil and Gas Industry Enterprises did not cope with the assignment for start-up of the production facilities, and housing and social-general facilities. As a result, a considerable lagging in the completion of commercial construction products was allowed in the sector as a whole. The trade union organizations share the responsibility for these shortcomings with the administration.

The trade union committees, Comrade V. T. Sedenko stressed, must adopt commitments based on the complete use of reserves and potentialities. They must organize the development of measures to guarantee fulfillment of the adopted commitments. Special attention should be given to the search for reserves and potentialities for adopting counterplans to accelerate the growth rates of labor productivity, conservation of material, labor and financial resources, and improvement in the quality of products.

The trade union Central Committee, together with the ministries have introduced a system of studying, generalizing and disseminating the leading production experience. Plans for introducing the leading experience which specifically define the scales and expected economic effect of its use are being confirmed as a whole in the sector, associations and enterprises.

Over 7,000 schools of leading experience were held in the last period. About 230,000 people participated in their work.

It is our duty, Comrade V. T. Sedenko said, to provide all possible support for valuable initiatives which are born during the national struggle for implementation of the decisions of the 26th Party Congress. It is also necessary to reach a systematic introduction of the leading practice and initiatives which have been verified by practice, such as rapid construction of main gas pipelines.

Improvement in labor productivity is the key indicator for intensification and efficiency of production.

The permanent production conferences (PPC) make a considerable contribution to the search for reserves of growth in labor productivity. The economic effect from introducing the measures suggested at the meetings of the PPC and the general meetings will be about R 40 million.

Taking of measures approved by the trade union Central Committee to improve labor standardization fostered improved efficiency in the use of labor resources. The percentage of technically substantiated norms rose and in 1980 reached 98.8 percent in construction. At the industrial enterprises of the Ministry of Construction of Oil and Gas Industry Enterprises, however, it is only 69.7 percent.

The plans of the 11th Five-Year Plan have set high assignments for acceleration in the growth rates of labor productivity. Thus, the increase in labor productivity in the Ministry of Construction of Oil and Gas Industry Enterprises in 1985 as compared to 1980 should be 18 percent. In order to fulfill these assignments, the committees of the trade unions have to strengthen control over the introduction of the plans for scientific organization of labor, standardization of labor, and reduce the losses of work time to the maximum.

All possible acceleration of the scientific and technical progress, comprehensive mechanization and automation, increase in the skill of the workers and use of the leading experience have decisive importance in guaranteeing a growth in labor productivity.

The trade union Central Committee is focusing considerable attention on improving the activity of the organizations in the Central Board of the Scientific and Technical Society of the Oil and Gas Industry imeni Academician I. M. Gubkin,the society of inventors and efficiency experts in mobilizing the creative activity of the workers.

The all-union public inspection of fulfillment of the plans for new equipment was important. A total of 348,000 suggestions were introduced during it. The all-union socialist competition for the best indicators in efficiency expert, inventive and patent-license work conserved R 951 million.

It is the task of the trade union committees and the creative associations of workers, Comrade V. T. Sedenko stressed, to take the most active part in realizing measures for technical re-equipping of the sectors, fulfillment of the plans for introducing new equipment and implementing the target comprehensive programs.

The Ministry of the Gas Industry jointly with the Ministry of Construction of Oil and Gas Industry Enterprises and other sectors are faced with fulfilling the comprehensive target program "Development and Mastery of Technological Processes and Technical Resources, Including Multilayer Pipes for Main Gas Pipelines 1420 mm in Diameter Rated for Working Pressure to 12 MPa."

Further improvement in the set-block method of working, extensive mastery of year-round construction of pipelines on swampy and flooded territory in West Siberia and the European north, broad introduction of permanent large mechanized complexes (lines), the use of large diameter pipes with plant insulation, and improvement in the use of construction equipment and transportation vehicles are the main directions of scientific and technical progress for the Ministry of Construction of Oil and Gas Industry Enterprises which must be the center of attention for the trade union organizations and the creative brigades.

One of the decisive trends in production intensification is strengthening the conservation regime.

The trade union committees together with the Komsomol committees and agencies of the USSR Gossnab, by organizing the all-union public inspection of the efficient use of raw material, materials and fuel and energy resources are doing considerable work to mobilize the labor collectives in the enterprises and organizations for conservation. During the 10th Five-Year Plan, 7.6 million kW x h of electricity, a large quantity of metal, petroleum products and others were conserved.

At the same time, the general level of work of the trade union and economic agencies to educate the workers in a prudent attitude towards the public property still does not completely meet the requirements for efficient use of the available resources. Not all the associations, enterprises and organizations are ensuring the fulfillment of the set assignments for conservation of fuel and energy, and other material and technical resources.

At the November (1981) Plenum of the CPSU Central Committee, Comrade L. I. Brezhnev called capital construction the decisive section of the five-year plan. The main task of the Ministry of Construction of Oil and Gas Industry Enterprises, Ministry of the Gas Industry and Ministry of the Oil Industry in this matter is to guarantee an increase in the facilities of the oil and gas complex needed to attain the levels of oil and gas extraction stipulated by the decisions of the 26th CPSU Congress.

In the current five-year plan, the Ministry of Construction of Oil and Gas Industry Enterprises is faced with fulfilling a volume of contract work costing over R 23 billion, which is a third more than in the 10th Five-Year Plan. Construction and start-up of five large main gas pipelines 1420 mm in diameter from Urengoy to the European sector of the country, and the export gas pipeline Urengoy-Uzhgorod with total length of over 20, 000 km are stipulated. This system of gas pipelines which is unprecedented in scales and rates of construction is the central construction site of the 11th Five-Year Plan which guarantees the successful development of the country's fuel and energy complex.

Fulfillment of the enormous program requires smooth work of the customers and contractors, and the development of competition of the subcontractors on the principle of "worker relay race." However, there are instances where the Ministry of the Oil Industry and the Ministry of the Gas Industry have lagged in producing the planning-estimate documents at the set times and in providing the equipment. The builders interrupt the start-up of a number of facilities and there are many claims against the construction quality.

The trade union committees jointly with the economic leaders must concentrate the efforts of the competitors on reducing the periods for start-up of the facilities, drastic reduction in incomplete construction, and improvement in work quality.

The November (1981) Plenum of the CPSU Central Committee indicated the need to bring the entire economic mechanism into correspondence with the new requirements. It is our duty, Comrade V. T. Sedenko indicated, to implement measures to improve planning and strengthen the effect of the economic mechanism on improved production efficiency and work quality, to guarantee the active participation of the worker collectives in the development of intensive plans and to monitor their fulfillment.

Special attention should be focused on realizing the plan for commercial construction products, the introduction of the brigade contract, as well as the transfer of the scientific research, planning and other subdivisions to the cost accounting system of organizing work to create, master and introduce new equipment.

The Central Committee, trade union organizations and administration of the enterprises have improved the system of developing and concluding collective contracts, and are taking measures to improve responsibility for their timely fulfillment. The efficiency of the collective contracts should be systematically improved. The active professional members and the workers must monitor their fulfillment.

Comrade V. T. Sedenko examined the participation of the trade union Central Committee in implementing the program developed by the 25th CPSU Congress for social development and improved standard of living of the people. Work has been done which is aimed at a further strengthening of the stimulating role of wages in fulfilling the planned assignments, and transfer of the workers in unproductive spheres to new salary conditions.

Model statutes have been approved for awarding bonuses for the main results of economic activity. Recommendations have been reviewed for consumption of the fund of material incentive in the associations, enterprises and organizations which have been switched to a new order of planning and economic stimulation.

The average monthly wages in the 10th Five-Year Plan rose by 20.9 percent for the oil workers, 24.1 percent for the gas workers and 22.5 percent for the builders.

The trade union Central Committee has regularly checked and given assistance to the primary organizations in their work to monitor the use of the wages and bonys systems, and the use of the fund of material incentive. However, as the check indicated, many trade union committees are not observing the set ratio regarding the the rates of growth in wages and labor productivity. As a result, this ratio has been disrupted at a number of enterprises in the Ministry of Construction of Oil and Gas Industry Enterprises and the Ministry of the Oil Industry. It is necessary to take active measures to eliminate these shortcomings.

Comrade V. T. Sedenko covered the activity of the trade union Central Committee to improve the working and recreation conditions of the workers and clerical workers. This work is based on preventive measures to prevent production injury, and strengthen control over the observance of the rules and norms for industrial hygiene.

Comprehensive plans for improvement in conditions, industrial hygiene and sanitation measures were approved jointly with the ministries for the 10th Five-Year Plan and mainly fulfilled. It is planned to spend 22 percent more money in the 11th Five-Year Plan to realize the comprehensive plans than in the 10th.

Considerable work has also been done to implement plans of state and sector standardization in the area of work safety for the 10th Five-Year Plan.

An all-union inspection was made of the conditions for work, daily life and recreation of the working women at the enterprises and organizations.. The movement of labor collectives for work without accidents and injuries (by the method of A. D. Basov) was continued. A movement under the motto "From Accident Prevention to Safe Equipment" became popular in the scientific research and planning-design organizations.

Comrade V. T. Sedenko evaluated the work of the technical labor inspection. Inspection of the observance of requirements for industrial hygiene, sanitary-hygiene conditions and environmental protection in the plans was intensified. Provision of the workers with special clothing, special footwear and other types of individual protection was under the constant supervision of the trade union Central Committee. The current demand for the basic types of special clothing and footwear is being satisfied, but the question of their quality has not been resolved. The demand for warm and especially special fur clothing is not completely satisfied.

The preventive work done by the trade union central committee promoted the fact that definite positive results in improving the working conditions and reducing production injury were attained at the enterprises and in the organizations. At the same time, the trade union Central Committee did not reach a radical improvement in ensuring safe working conditions at a number of industries and in transportation.

Mechanization and automation of production processes is an important problem. The task remains to complete classification of manual operations and provide permanent public monitoring of the fulfillment of the assignments to reduce the percentage of manual labor.

The trade union organizations jointly with the public health agencies have taken measures for prevention and reduction in the sick rate of workers and clerical workers in production. This resulted in a decrease in loss of working time because of temporary incapacity.

Comrade V. T. Sedenko also dwelt on the activity of the trade union Central Committee in the area of improving housing conditions and daily life of the workers. During the 10th Five-Year Plan and 1981, houses with total area of 10.4 million m^2 were built for the workers of our sectors and their family members. A total of 252 preschool institutions and schools for 76,000 places were opened. Houses with total area of 3.2 million m^2, 62 kindergartens and other social-general facilities were built in West Siberia.

Our system, said Comrade V. T. Sedenko, has about 1200 field advance cities and watch settlements. At the same time, the orders of the ministries for house trailers is satisfied by 50-60 percent every year, the in-house base is being developed slowly and the problem of watch transportation has not been resolved. The trade union committees must implement plans to build nonproduction buildings.

The food program has an important place in the set of measures to raise the standard of living of the Soviet people.

The collectives of our sector have done a lot to develop agriculture. The Ministry of Construction of Oil and Gas Industry Enterprises has built the Tol'yatii-Odessa ammonia pipeline, 20 animal husbandry complexes, water lines and gas lines for the village. The oil workers, gas workers and builders have given supervisory help to the village and have developed their auxiliary services.

The available opportunities for a further development of auxiliary services are far from completely utilized however. The association Privolzhskgazpromstroy, for example, is not very involved in creating auxiliary services.

The trade union committees must control the fulfillment of the assignments set by the ministries and trade union Central Committee for the development of auxiliary services.

The trade union Central Committee and the committees have done a lot of work to improve the organization of public nutrition and trade services for the workers. At the same time, there are serious shortcomings in the development of the network of worker cafeterias and trade enterprises.

The trade union Central Committee in its activity, noted Comrade V. T. Sedenko, has constantly focused special attention on controlling the observance at the enterprises and organizations of the socialist law in labor legal relations. Temporary statutes were developed and put into operation for the organization of work by the watch method. With the participation of the ministry representatives, comprehensive checks were made of the observance of the labor legislation.

The activity of the trade union has become more vigorous for communist education of the sector workers. A plan of ideological work is being implemented with the Ministry of Construction of Oil and Gas Industry Enterprises and a number of party obkoms in the construction of the main gas pipeline system.

A lot of attention was focused in the fiscal period on improving the level of organizational work and the development of social principles in the activity of the trade union.

The resolution of complicated and important tasks for economic and social development of the oil, gas industry and construction of enterprises in these sectors requires that all labor collectives and each worker multiple their efforts for a more complete use of the reserves and potentialities. The state plan for the 11th Five-Year Plan and for 1982 has become the law and the most important task now is its fulfillment.

First Deputy Minister of the USSR Gas Industry Yu. V. Zaytsev stressed in his speech that the gas industry workers, by implementing the decisions of the 26th Party Congress and the November (1981) Plenum of the CPSU Central Committee held a labor watch in the first year of the five-year plan in a fighting manner, with a high creative atmosphere and made a weighty contribution to building up the fuel and raw material foundation of the economy. The state plan for gas extraction and other technical and economic indicators was fulfilled early. The national gas extraction reached 465.2 billion m^3. The national economy received 7.2 billion m^3 above the plan. The rate of growth in labor productivity was 4.5% with a planned of 1.9%. The results of fruitful work were governed a lot by the broad unfolding of socialist competition and the dissemination of the leading experience and valuable labor initiatives. The broad response among the collectives of the enterprises and organizations of the sector was made to the initiative of the Tyumen' workers to unfold competition for early achievement of a daily extraction of 1 billion m^3 of gas at the oblast fields. The fruits of the skilful and purposeful work of the trade union Central Committee and its professional agencies are visible in the organization and broad evolution of sector socialist competition for the successful fulfillment of the assignments in the first year of the five-year plan.

The results of what has been done are evaluated strictly and with self-criticism, Comrade Yu. V. Zaytsev further stated, and we clearly see our shortcomings, the underutilized potentialities and the unresolved problems.

We first of all have to see that all the enterprises and organizations fulfill the planned assignments for the set indicators. Primary attention must be aimed at guarantee of timely start-up of the most important production facilities, especially gas transport systems, more efficient use of the active basic funds, all the created potential, acceleration in the growth of labor productivity, the strictest conservation of raw material, materials, fuel and energy, financial and labor resources and strengthening of discipline. A significant improvement in the situation with construction of housing, kindergartens, schools and public health facilities must become an object of concern.

A lot remains to improve and sanitize the working conditions, reduce production injury in the framework of the developed comprehensive program. During the 10th Five-Year Plan and the first year of the 11th Five-Year Plan, as a result of the purposeful work in close contact with the trade union organizations, there was a considerable improvement in the working conditions of the gas workers. Production injuries dropped by 41.3 percent. However, what has been attained is far from the limit.

Comrade Yu. V. Zaytsev stressed that the ministry considers it its duty to take an active part in solving the food problem. The five-year plan of the sector stipulates the organization of 11 new sovkhozes and 24 large auxiliary rural services in the associations and administrations of worker supply. In addition, in practically every compressor station auxiliary services will be set up or feed farms, as well as greenhouses based on use of exhaust gas heat. All of this will be a considerable help in improving the supply of food to the workers of the gas industry, especially in West Siberia. The ministry will provide all possible help to developing agricultural production in the sector and supporting any useful initiative in this important matter.

All possible conservation of gas must become an important principle in all the economic and social activity. Together with the trade union organizations we have to activate work in this direction. Questions of economy and conservation, the efficient use of gas, as well as other fuel and energy resources must be the object of systematic and deeper discussion at the worker meetings, and must be taken into account more strictly in summarizing the competition results. It is necessary to widely introduce individual and collective accounting of conservation, make public inspections, suprise inspections and competitions, and involve the workers and clerical workers more actively in the all-union public inspection for conservation and economy.

The sector, stressed Comrade Yu. V. Zaytsev, laid a good foundation in 1981 for the resolution of new and even more complicated, large-scale tasks. Based on the decree of the November (1981) Plenum of the CPSU Central Committee, the statutes and conclusions in the program speech at it by Comrade L. I. Brezhnev, the workers of the gas industry see their direct duty as not only fulfilling, but also surpassing the set assignments of the five-year plan. It is planned to bring gas extraction in the country in 1985 to 630 billion m^3, i.e., increase it almost 1.5-fold as compared to 1980.

West Siberia remains the center of application of all efforts. In 1985 the total extraction of gas must be brought to 356 billion m^3 which will be almost 60% of the national level. It remains to construct and open five major gas pipelines, West-Siberia-center of the country and the export gas pipeline Urengoy-Uzhgorod.

The collectives of the Ministry of the Gas Industry have adopted a confident labor rhythm at the start of the second year of the five-year plan whose assignment is very intensified. The sector has broadly responded to the initiative of the Tyumengazprom workers who acted as the initiators of the socialist competition for early fulfillment of the associations and have adopted socialist commitments for 1982 for above-plan extraction of 5 billion m^3 of gas.

At the current stage, Comrade Yu. V. Zaytsev said in conclusion, the gas industry has a strong raw material base, a powerful production-economic and scientific-technical potential, and most important, enriched with many years of experience, skilled, highly-qualified personnel who are capable of reaching even higher limits, and successfully resolving the tasks for further accelerated involvement of the country's gas resources, primarily the Tyumen', in the national economic turnover.

The Minister of the USSR Oil Industry N. A. Mal'tsev in his speech primarily covered the 1981 results. The sector extracted 1.6 million T of oil with gas condensate more than the planned. The level of gas recovery was brought to 72.4 percent versus 68.6 percent in 1980. A further rise in the volume of drilling operations was reached.

The development of the oil industry is presently characterized by the large scale of the tasks, constant movement of the main volumes of oil extraction to regions of difficult access. The oil workers are faced with tasks of enormous state importance for further development of the West Siberian complex, accelerated development of the fields in West Kazakhstan and in the northern Komi ASSR, as well as the Ural-Volga region and North Caucasus. The ways to solve these tasks are linked to scientific and technical progress. The sector has set up comprehensive target programs. They concern the most important aspects of activity,in the sphere of supply of reserves, efficient use of them, drilling, extraction of oil and gas, gas refining etc. The board of the ministry has developed and approved for 1982 measures for fulfillment of the decisions of the November (1981) Plenum of the CPSU Central Committee. The task is now to provide organizational work for their fulfillment. This matter requires the great assistance of the trade union committees.

The main content of our work, Comrade N. A. Mal'tsev further said, must be questions of the organization of highly productive work, the development of socialist competition, and the extensive presentation to all of the experience of the leading collectives. The drastic rise in the volumes of drilling planned for the 11th Five-Year Plan (double that in the 10th) must be ensured primarily through increased labor productivity of the drilling brigades and all the technical and economic drilling indicators.

An important task is to realize measures for a comprehensive program of social development of the labor collectives in the sector. It includes many important problems aimed at creating a healthy social and psychological climate in the collectives. Comrade N. A. Mal'tsev stressed that because of the great attention and concern of the CPSU Central Committee in 1981, considerable positive shifts were made in the matter of nonproduction construction. Thus, for the first time in West Siberia, the volumes of construction-installation work were overfulfilled in housing construction. About 700,000 m^2 of housing was opened up (1.5-fold more than in 1980). New cities and worker settlements appeared. As a result, the housing conditions of the workers were considerably improved. At the same time, the set plans for nonproduction construction are not being fulfilled in many regions.

Comrade N. A. Mal'tsev examined the participation of the oil workers in solving the food problem, which as the November (1981) Plenum of the CPSU Central Committee noted is central in both economic and political respects.

There is an active and developed system of worker supply, public nutrition, sovkhozes and auxiliary services in the sector. There are 47 sovkhozes and auxiliary services. Hot food has been provided to over 6,500 brigades and collectives which is 99 percent of their total.

At the same time a lot remains to be done and improved in this area. The leaders of all the associations, enterprises and organizations must give the necessary help to the administrations of worker supply for construction of their facilities, technical supply, provision with housing, cultural-general and children's preschool institutions.

It is an important task of the leaders to create healthy and safe working conditions and develop a network of sanatoriums and dispensaries, houses and recreation bases. As a result of the work that has been done, the production injuries have dropped in the sector. However, injuries have increased in the "Azneft'," "Uralneftegaz" and "Mangyshlakneft'" associations.

In order to rectify the situation, the leaders of both the associations and the appropriate republic, oblast trade union organizations must pay attention.

The results of the November (1981) Plenum of the CPSU Central Committee and the speech at the Plenum of the General Secretary of the CPSU Central Committee L. I. Brezhnev, Comrade N. A. Mal'tsev stressed, have become a powerful impetus for improving the labor activity of the oil workers, the birth of new initiatives and the adoption of intensified socialist commitments for the second year of the 11th Five-Year Plan. The sector workers have adopted commitments to extract 1.7 million T of oil and 150 million m^3 of gas above the plan in 1982.

The success of the workers in 1982 and for the 11th Five-Year Plan as a whole depends on the skilful use of the available results and the elimination of all "tight places."

The Minister of Construction of Oil and Gas Industry Enterprises of the USSR B. Ye. Shcherbina noted in her speech that the scientific and technical base of the construction ministry grew during the fiscal period. The sector is being successfully re-equipped and the plans for the previous five-year plan were fulfilled ahead of schedule. There was a 36 percent rise in the volume of contracts, 18 percent rise in labor productivity, the main routes added 50,000 km, and the volume of work in West Siberia more than doubled. The most important stage was completed in the country's economy: unified oil and gas systems were set up and they became an independent transport sector, the largest in the world. Underground arteries now carry 95 percent of the oil, gas and almost one-third of the country's freight turnover.

The largest scientific-technical, engineering-economic problem of our time has been resolved. Scientists, planners, metallurgists, machine builders, all the oil workers, gas workers, builders, our youth, the Leninist Komsomol participated in it.

The fields are now being built up in a basically new way. Technological innovations are being introduced and original machines, equipment and instruments are being developed. The skill of the production collectives has risen.

Comrade B. Ye. Shcherbina further characterized the new five-year plan as years of unprecedented scales, problems and tasks. It is not only a matter of needing to fulfill much more work than in the previous five-year plan, but of doing this primarily through a growth of labor productivity. These are the starting years and the decisive ones in fulfilling the new fuel and energy program that was developed on the initiative of Comrade L. I. Brezhnev for the long-range future.

Gas and nuclear power engineering are given a special place in the preservation of the high rates of development of the oil and gas industry in this program.

After reaching the planned limits in the 11th Five-Year Plan, the workers of the gas industry and builders, by determining the circulation of the realized level in the future, as if repeating it, will apparently be able to reach an unprecedented height by the middle of the 13th Five-Year Plan.

The Siberian rates will become qualitatively different and even more accelerated. Kazakhstan will create a sector of the gas industry, Turkmeniya will add extraction, Uzbekistan will maintain a high level, but this is far from a complete list of the geography of our fuel construction sites, places where the workers of the Ministry of Construction of Oil and Gas Industry Enterprises are toiling.

The gas pipelines from Tyumen' to the regions in the center of the country will be central in the five-year plan, as Comrade L. I. Brezhnev called them at the November (1981) Plenum of the CPSU Central Committee. The Urengoy-Gryazovets-Moscow gas pipeline has been in operation since last year. Construction of the pipeline to Petrovsk is being completed. Work on the compressor station platforms needs to be decisively strengthened here.

The construction of the third gas pipeline Urengoy-Novopskov is underway.

The leading collectives have acted as the initiators of socialist competition for early opening of all the five-year plan routes, and the best of the lines to reach 100-km of laying pipelines per year, double that of the current average sector output. Socialist competition is being organized around the commitments.

Each person who is working for the gas industry at the construction sites, B. Ye. Shcherbina stressed, understands the special significance of his work for the people and his place in the large international policy that is being conducted by the Communist Party of the Soviet Union, and which we, like all the Soviet people, warmly approve and support. This is the source of great inspiration. This is a measure of our patriotism and professional prestige.

The builders have done a lot in the first year of the five-year plan: here are early start-ups and the fulfillment of target tasks which have permitted the oil workers and the workers of the gas industry to overfulfill the plans. Another thing is important: are we making a weighted evaluation of our results? Have we successfully made a qualitative change in the direction, accents of management as the 26th Party Congress required of us? Comrade B. Ye. Shcherbina noted that with a considerable overfulfillment of the plan for construction and installation work in the first year, the ministry did not fulfill the contract commitments for the oil industry, including West Siberia. Not all the subdivisions have maintained the assigned rate of growth in labor productivity. The schedules have been interrupted for starting up a number of facilities. The plan for commercial products has not been fulfilled, for the indicator which the builders switched to for first time in 1981, for the idea called upon to alter the qualitative evaluation of work. This criterion must become mandatory in the plans of the customers.

Comrade B. Ye. Shcherbina stressed in particular that the rates, no matter what they are (they are actually high), and the tasks, technically complicated, neither one should hide the negligence, carelessness, wastefulness and poor management, which, unfortunately, many enterprises are not free of. Rigid demand and high responsibility are needed here.

What is the main path for improving the construction and how can our activity be aimed so that we successfully cope with the assignments entrusted for the five-year plan and for 1982?

First of all, this can be done in a high level of scientific and technical solutions, from plans to execution. There are many examples where successfulness of the solutions yields an enormous economic effect. Thus, construction of new gas pipeline and oil pipelines in one energy corridor solves many problems, but the main point is that a fourth of the route will be constructed through the saving that the construction organizations obtain by reducing the time for rebasing.

In relation to equipment and resources the most important thing which needs to be done is to use the available technical potential, and here there are great reserves and potentialities. It is not good today for the modern complicated mechanisms to run for 10, 12 or even 13 h. Not 1.5 or 1.4 shifts. We need a course of two-shift operation of the most highly productive equipment.

We have to develop and introduce new machines, mechanisms and equipment.

The creation of subsectors of machine construction and the construction industry makes it possible to guarantee annual output of R 600-700 million worth of items. Technical re-equipping of the sector will double the power equipping of labor. It will have higher quality. The years 1982-1983 will be definitive in this respect. In these years it is the main task of the builders to guarantee growth of the contract, much greater than it was in the entire previous five-year plan. Such a level has never been reached in the history of construction. However, this task, although it is difficult, is real.

Radical measures are planned, switching to more powerful gas pipelines on pressure of 10-12 MPa, extensive use of electric contact welding and complete assembly, new technical solutions will be introduced into the oil industry, etc.

In the present demographic situation, Comrade B. Ye. Shcherbina noted, increase in the productivity of labor, implementation of basic innovations, and solution to social problems become very important. A lot has been done in the last respect. Output of block houses of improved quality has begun. Production of transportation vehicles and watch machines of improved passability is continuing. The sector will begin to manufacture more housing, including watch and sports complexes. More houses and kindergartens will be built. However the sector is lagging behind many subdivisions in the area of building kindergartens and this needs to be rectified.

The further path for improving the efficiency of capital construction lies in improving control. A new general plan is being introduced in the area of reconstruction. A new energetic group of people has entered the management of the central boards, trusts and mobile subdivisions. There can be no doubt but that they will justify the trust emplaced in them with honor.

The rates of work aimed at the final result, at the finished product will significantly rise.

But in all circumstances, Comrade B. Ye. Shcherbina stressed, the main achievement remains the worker, the specialist, the engineer, the manager. Their will, knowledge and commitment are the most important features of character which we must train. All the activity of the managers, trade unions and all the social organizations are called upon to instill better human qualities and to teach skill.

The main reserves of rates and quality have now been shifted to skill and morals. The highest efficiency can be created only by high ideology and moral beauty of the worker. The better and more completely education is set up, is conducted in the framework of planned and organizational commitment, which has been started in the sector by creating the necessary work climate, the closer is the goal which is outlined. Our goal has special state importance: to reliably provide the country with fuel and raw material for further technical progress, flourishing of its might, culture and welfare of the people. It is a great matter to be worthy of this call.

The speeches at the Second Congress of the Oil and Gas Industry Workers' Trade Union of Heroes of Socialist Labor M. I. Buyanov (KMMU-1 of Sibkomplektmontazh), I. G. Shaykhutdinov (Tatnefteprovodstroy), M. A.Khuseynov (SMU-2 Stavropol'truboprovodstroy), as well as USSR State Prize laureate M. V. Chizhevskiy (Glavtyumenneftegazstroy) and chairman of the trade union construction committ committee S. G. Shakhnazaryan (Transcaucasus Administration of Pipeline Construction) will be published in subsequent issues of the journal.

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YUGANSKNEFTEGAZ ADOPTS 1982 SOCIALIST COMMITMENTS

Moscow NEFTYANIK in Russian No 3, Mar 82 pp 6-7

[Article: "Socialist Commitments of the Collective of the Production Association 'Yuganskneftegaz' for 1982"]

> [Text] The oil workers have adopted the decisions of the November (1981) Plenum of the CPSU Central Committee with great inspiration and creative enthusiasm. This Plenum has become a direct continuation of the 26th Party Congress and has indicated the ways and means of realizing the economic and social program planned for 1981-1985 and the period to 1990. The enormous mobilizing effect of the Plenum decisions and the speech of the General Secretary of the CPSU Central Committee, Chairman of the USSR Supreme Soviet, Comrade L. I.Brezhnev at it has appeared most explicitly in the growth of labor and social activity of the sector workers, the new initiatives aimed at accelerating scientific and technical progress, efficient use of production facilities, and search for and actuation of internal reserves for an all possible increase in labor productivity. The collective of the association "Yuganskneftegaz" of Glavtyumenneftegaz has again become the initiator of the socialist competition in the sector for expanding the struggle for the successful fulfillment and overfulfillment of the 1982 assignments and the creation of a reliable foundation for implementation of the decisions of the 26th CPSU Congress. The text of this collective's commitments is presented below.

Inspired by the decisions of the 26th CPSU Congress, the workers, engineering and technical workers,and clerical workers of the production association "Yuganskneftegaz" have been actively included in the struggle to increase production efficiency and successfully fulfill the assignments of the 11th Five-Year Plan for extraction of oil and gas in West Siberia.

The collective of the "Yuganskneftegaz" association have broadly expanded socialist competition. They achieved new labor advances in 1981 in providing the country's national economy with fuel and energy resources. Assignments were completely fulfilled and socialist commitments were adopted for supplies of oil and gas to the national economy, drilling, rise in labor productivity and other technical and economic indicators. The increment in oil extraction, including gas condensate, was 5.215 million T. Oil with gas condensate above the plan was extracted totalling 554,000 T. A total of 34.5 million m^3 of casing-head oil gas was recovered and 190,800 m of rock were drilled. Products of R 6.695 above the plan were realized.

Inspired by the decree of the November (1981) Plenum of the CPSU Central Committee, the workers, engineering and technical workers, and clerical workers of the "Yuganskneftegaz" production association adopt the following socialist commitments for 1982, by mobilizing the creative energy and labor activity of the collectives in the enterprises and organizations for highly productive labor and all possible saving of material and labor resources, and by striving to make a worthy contribution to the accelerated achievement of daily extraction of 1 million T of oil in the Tyumenskaya Oblast, and of 1 billion m^3 of gas, and also to mark with intensive labor the remarkable dates of the 60th anniversary of formation of the USSR, the 65th anniversary of the Great October, and the opening of the 19th Komsomol Congress.

By improving work efficiency of the enterprises and organizations of the association, by using the internal reserves and by accelerating the start-up of new facilities, they will guarantee extraction of 280,000 T of oil and gas condensate and 4 million m^3 of casing-head oil gas above the state plan in 1982. They will realize products above the plan to the sum of R 3.080.

For purposes of further expansion of measures for environmental protection and the minimum consumption of fresh water for technical needs, they will attain a use of field waste water for maintenance of formation pressure for the association in a volume of 28.7 million m^3.

They will increase the extraction of oil at the comprehensively automated oil fields to 86.5% from the general volume. For this purpose, they will automate one oil field in 1982, bringing the total number of comprehensively automated oil fields to eight.

They will introduce a system of remote control at the Teplovskoye field.

They will put into operation the second phase of the unit for oil preparation at the Mamontovo field with output of 3.5 million T.

By improving the use of the production funds and reducing the costs of production, they will obtain 1 million rubles of profit in 1982 above the planned.

They will increase the specific weight of the workers engaged in mechanized labor: to 56.9% in drilling, to 70.1% in extraction and to 89.8% in trucking.

The collective will reduce the specific labor expenditures for one well to 12.6% as compared to 1981, and in this case will conditionally release 63 people for servicing the newly introduced facilities.

By improving the drilling regime, timely fulfillment of a complete set of preparatory work in drilling, by fulfilling the proper material and technical supply, and by creating the conditions for the highly productive work of each drilling brigade, the collective will complete the construction of four wells above the set plan in 1982, and drill 10,000 m of rock above the plan.

The collective will reduce the average duration of the well construction cycle by 0.2 days with a planned of 39.8 days.

By improving the creative activity of the inventors and efficiency experts, the collective will obtain an annual economic effect of R 1.355 from introducing into production the inventions and efficiency experts' suggestions.

It will conserve by introducing a system of standardization and efficient use of material-technical and energy resources: 40 million kW x h of electricity, 3,700 T of conventional fuel, 615 T of drilling pipes and 39 T of steel cable.

By ensuring re-use the workers will conserve: 600 T of table salt and 285 T of casing pipes.

By implementing the plan for social development of the collective, the workers, jointly with the contracting construction organizations will guarantee the start-up of: 116,000 m^2 of housing, preschool institutions for 840 places, a cafeteria for 100 seats in Mamontovo (Pyt'-Yakh) and for 150 seats in Nefteyugansk, three stores in Nefteyugansk and worker settlements, warehouses for storage of food and industrial commodities with area of 3,600 m^2. They will complete construction of the greenhouse complex in the sovkhoz "Nefteyuganskiy" and will start-up a closed-ground greenhouse of 0.6 hectares. They will build a 1000-head pig feed sty.

In order to provide the enterprises and organizations of the association with highly skilled workers and engineering and technical workers, 2215 new workers will be trained in 1982 and the skill of 2325 will be improved.

Personnel turnover will be reduced by 3% as a result of the introduced measures aimed at improving the use of labor resources.

By implementing a set of measures to eliminate losses and guarantee preservation of the products in the auxiliary services, improve the harvest of agricultural crops and the productivity of cattle and poultry, the workers will realize the following in the worker supply system: 11,400 quintals of milk, 5 million eggs, 171 T of meat and 518 T of vegetables.

In 1982 the collective will continue the traditional socialist competition with the collectives of the production associations "Urayneftegaz" and "Surgutneftegaz."

The socialist commitments were adopted by the active party and management members of the association on 6 January 1982.

The Ministry of the Oil Industry and the central committee of the oil and gas industry workers'trade union have approved the patriotic initiative of the collective of the "Yuganskneftegaz" association of the Glavtyumenneftegaz to expand socialist competition for early fulfillment of the plan and the 1982 adopted commitments.

It has been suggested that all the main administrations, administrations, associations, enterprises and organizations of the Ministry of the Oil Industry and the appropriate committees of the trade union conduct mass organizational work for a broad discussion and dissemination among the worker collectives of the initiative of the "Yuganskneftegaz" association. It is necessary to aim the efforts of the competitors at a further improvement in production efficiency and work quality, a constant search for and creative use of the internal reserves, strengthening of the conservation of material, labor,and fuel and energy resources, and reinforcement of the labor and production discipline, and on this basis, achieve the unconditional fulfillment and overfulfillment of the planned assignments.

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SOCIALIST COMMITMENTS OF AZERBAIJAN OIL AND GAS WORKERS OUTLINED

Baku AZERBAYDZHANSKOYE NEFTYANOYE KHOZYAYSTVO in Russian No 1, Jan 82 pp 3-8

[Article: "Socialist Commitments for 1982 of the Collectives from the Enterprises and Organizations of the Azneft' Association"]

[Text] Guided by the decree of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee "On the All-Union Socialist Competition for Successful Fulfillment and Overfulfillment of the Assignments of the 11th Five-Year Plan," the workers, engineering-technical workers and clerical workers of the Azneft' association have been actively included in the socialist competition for a further increase in the efficiency of production and the quality of work, and the successful realization of the decisions of the 26th CPSU Congress.

The workers of the Azneft' association, inspired by the decisions of the November (1981) Plenum of the CPSU Central Committee, and the conclusions stated in the speech at it by General Secretary of the CPSU Central Committee, Comrade L. I. Brezhnev, and taking into consideration the just criticism made about the oil workers by candidate for membership to the Politburo of the CPSU Central Committee, Comrade G. A. Aliyev at the December (1981) Plenum of the Azerbaijan Communist Party Central Committee, striving to mark the 60th anniversary of the formation of the USSR, the 65th anniversary of the Great October Revolution with intensive labor, and having assessed their reserves and potentialities, adopt the following socialist commitments for 1982:

1. They will increase the coefficient of use of the active well fund to 0.95 for which purpose:

they will take 200 geological engineering measures and perform 100 operations above the plan to modify the near-face well zone;

they will guarantee a further increase in the quality of the preventive maintenance and major repair of wells, not allow accidents and defects in the well repair.

2. They will implement a further improvement in the efficiency and quality of geological exploration and drilling operations through their concentration at the Pirsagat, Kyursangya, Neftechala, Karabagly, Zardob and Muradkhanly fields.

3. By improving the skill of the workers, introducing the achievements of science and technology into production, the strictest observance of the requirements of the geological engineering orders, and extensive dissemination of the work experience of the drilling brigades, they will ensure:

drilling above the plan of 3,000 m, including 2,000 in the producer wells and 1,000 m in the exploratory;

10-day reduction in the construction cycle for extracting wells versus the assignment;

completion of construction of six wells above the plan;

reach an increase in the rates of annual realization of the oil reserves by increasing the volume of drilling of new extracting wells and intensifying the oil extraction in the producing fields of Karabagly, Kyursangya, Muradkhanly, Neftechala, Siazan' monocline and the deposits in the lower PT [expansion unknown] section of the Apsheron Peninsula fields;

improve the state of working the oil fields by increasing the efficiency of the water modification of the beds.

4. They will continue work to introduce the latest achievements of scientific and technical progress into production:

by introducing new methods for improving the oil bed output to extract an additional 5,000 T of oil;

by guaranteeing an effect during the five-year plan from taking measures to increase the oil output of the beds in a volume of 530,000 T.

5. By taking measures to intensify oil extraction, improve labor organization, and raise the degree of mechanization and automation of the production processes they will overfulfill the plan for labor productivity in industry by 0.1 percent;

6. Through organizational work and improved creative activity of the efficiency experts and inventors, they will achieve savings totalling R 2.9 million from introducing inventions and efficiency experts' suggestions into production.

7. By observing the strictest conservation regime in consumption of raw material and materials, fuel and electricity, efficient use of electric equipment, reduction in electricity and fuel losses, and optimization of the operating regime of the boilers, they will save:

22 million kW x h of electricity;
2000 Gcal of heat;
4000 (T of conventional fuel) of boiler-furnace fuel;
120 T of ferrous metal;
150 T of car gasoline;
120 T of diesel fuel.

8. They will extract above the plan:

5,000 T of oil;
35 million m^3 of gas.

During the five-year plan, they will extract 200 million m^3 of gas above the plan.

9. They will ensure above the plan (in 1982 prices):

realization of products for R 200,000;
profit of R 100,000;
production of gross product for R 100,000.

10. They will systematically struggle for an improvement in production efficiency by improving the maintenance of the work areas, thorough preparation of the equipment and tools for work, introduction of low mechanization tools, and improve the working and recreation conditions of the workers.

11. In the area of environmental protection, they will:

achieve complete halting to discharge of industrial waste water into the Caspian Sea;

reduce the total quantity of harmful substances discharged into the atmosphere (in Baku) by 500 T;

trap and neutralize 800 T of harmful substances.

12. In the area of improving the housing-general conditions of the workers:

they will put into operation 15,000 m^2 of housing area during the year;

perform major repairs on 494 houses, and cultural-general and communal facilities for R 2.2 million;

perform work to build up the worker settlements for a total of R 470,000;

continue work to turn Baku into a garden city and plant 20,600 trees and bushes in the oil regions.

13. Sell to the workers through auxiliary services:

113 T of meat (live weight);
155,000 eggs;
62 T of vegetable and cucurbitaceous crops;
bring the holding capacity of the poultry houses in the auxiliary services to 148,000 head.

14. Improve the skill of 50 people above the plan in the enterprises and organizations of the association without production interruption, and provide production-technical training for 25 engineering and technical workers above the plan.

Taking upon ourselves the socialist commitments, we call upon the collectives of the production associations Turkmenneft' and Gruzneft' to participate in the socialist competition.

The socialist commitments were discussed and adopted at a joint meeting of the Council of Directors of the Azneft' association and the Presidium of the Azerbaijan Republic Committee of the Trade Union of Oil and Gas Industry Workers on 8 January 1982.

All-Union Production Association Kaspmorneftegazprom

The offshore oil workers are working persistently to implement the decisions of the 26th CPSU Congress and the 3th Congress of the Azerbaijan Communist Party.

The first year of the 11th Five-Year Plan was marked by a new contribution to the development and working of the Caspian fields. A total of 1.2 billion m^3 of gas was extracted, gross products for R 6.8 million were produced and products for R 10.4 million were realized in addition to the 1981 plan. Labor productivity in industry was 2.3% above the planned.

The drilling organizations of the association, having overcome a lengthy lagging, have drilled 4576 m of rock above the assignment. The plan for the volume of construction and installation operations has been overfulfilled by R 312,000.

The following were constructed: Neftyanyye Kamni-Dybendy port oil pipeline, Dashgil'-Az. Oil Refinery condensate pipeline. An underwater junction was laid through the Kyubyshev reservoir to guarantee supply of Urengoy gas to the western regions of the country.

Competition in honor of the 26th CPSU Congress and the 30th Congress of the Azerbaijan Communist Party has obtained a broad scope at the enterprises of the association.

Many collectives of the enterprises, shops and brigades had fulfilled the 2-month 1981 plan by the opening of the 26th CPSU Congress. By developing the competition in honor of the party congress, and by supporting the initiative of the leading Azerbaijan collectives to fulfill the annual plan by 7 November, over 60 brigades of the leading occupations fulfilled the adopted socialist commitments. They included the drilling brigades of Hero of Socialist Labor M. M. Gambarov, I. G. Nasirov (Sangachaly drilling administration), brigades of major repair and preventive maintenance of wells of Lenin Komsomol Prize laureate F. M. Veliyev (Oil and Gas Extracting Administration imeni Serebrovskiy), M. A. Guseynov (Oil and Gas Extracting Administration imeni N. Narimanov), G. M. Nagiyev (Oil and Gas Extracting Administration Artmenneftegaz), construction-installation brigades of A. Kh. Kerimov (trust Azmorneftegstroy), I. G. Gazaryan (trust Kaspmorneftegazstroy) and others.

The workers from the enterprises of the all-union production association Kaspmorneftegazprom entirely and completely approve of the decisions of the November (1981) Plenumof the CPSU Central Committee, the premises and conclusions in the speech at the Plenum of the General Secretary of the Party Central Committee, Comrade L. I. Brezhnev, and adopt them as the fighting program to fulfill the 11th Five-Year Plan and the 1982 plan.

Specific tasks to develop oil and gas extraction in the Caspian have been set for the association by candidate for membership to the Politburo of the CPSU Central Committee, First Secretary of the Azerbaijan Communist Party Central Committee, Comrade G. A. Aliyev in his report at the December Plenum of the republic's Communist Party Central Committee.

The set tasks are aimed at a further increase in the oil and gas extraction, conservation of fuel, material and energy resources, all possible improvement in the efficiency of all links in oil and gas extracting production, and quality of work.

The offshore oil workers are resolved to mark 1982, the year of the 60th anniversary of formation of the USSR, with intensive labor, to work more efficiently, with the maximum effort and knowledge. Under the motto "60 Intensive Labor Weeks for the 60th Anniversary of Formation of the USSR," "Economical Economy," the association enterprises will expand socialist competition for early fulfillment of the five-year plan.

The collective of the all-union production association Kaspmorneftegazprom, for the practical realization of the tasks facing the oil and gas extractors of the Caspian, and for a worthy meeting of the 60th anniversary of formation of the USSR, adopts the following socialist commitments for 1982:

by improving the working of the fields, broad introduction of new equipment and progressive technology, and accelerated development of additional facilities, they will extract above the plan 150 million m^3 of gas, produce 100 million m^3 of dry gas, produce R 500 million worth of gross products and realize products for R 700,000;

based on the automation of the production processes, mechanization of labor-intensive operations, and the introduction of progressive forms of labor organization, they will increase labor productivity by 0.1 in industry versus the planned, and by 0.2 percent in construction;

through better use of the material and technical resources, strengthened conservation regime in all links of production, they will reduce the prime cost of industrial products by 0.5 percent, and construction-installation work by 0.1 percent. They will obtain above the plan R 100,000 of profit in industry, and R 20,000 in construction;

by improving the drilling technology, using highly productive types of rock-breaking tools, effective chemical reagents, and improving organization of work, they will drill above the plan 1000 m of rock, finish construction of one well. They will reduce unproductive time in drilling the extracting wells by 3, and the exploratory by 2 percent;

They will remove five wells above the planned assignment from inactivity and will thus guarantee extraction of 5,000 T of oil;

they will take 100 geological-technical measures above the plan with total effect of 20,000 T of oil;

they will continue work to increase the volumes of secondary and tertiary methods for intensifying oil extracting and improving oil be output with guaranteed extraction of no lees than 10,000 T of oil through these measures;

by using new equipment and technology, by improving the organization of labor, they will make 60 major repairs and 170 preventive maintenance operations of well in addition to the plan. They will increase the productive time in repair operations by 5%;

by implementing measures to improve the quality of products, they will bring the supply of oil of first and second categories of quality to 95 percent;

they will guarantee a sum of R 5.8 million of products with the state sign of quality;

by using advanced methods of working, brigade cost accounting in construction, they will perform construction and installation operations for R 100,000 above the plan, and major repair of the offshore hydro-engineering structures for R 100,000. They will put the Bulla-more-Dashgil' product pipeline (fifth line) into operation ahead of schedule;

in order to prevent contamination of the marine environment and the air basin, they will put into operation new facilities totalling R 1.3 million;

through effective use of truck and marine transport, they will reach an above-plan volume of shipment in truck transport by 106,000 T and in marine by 18,000 T;

they will expande competition for an intensified regime of conservation and prudence under the motto "Economical Economy," and for economical use of raw material, materials and fuel and energy resources on this basis. They will save 4 million kW x h of electricity, 200 T of ferrous metals, 160 T of car gasoline, 550 T of diesel fuel, 2500 T of boiler-furnace fuel (in conventional units), 700 T of cement and 500 Gcal of heat;

as a result of accelerating the rates of scientific and technical progress, improving the efficiency of scientific research and development, they will attain an economic effect from introducing efficiency experts' suggestions and inventions of no less than R 3.5 million, and will guarantee the introduction into production of measures for technical progress with annual efficacy of R 4 million;

they will introduce the first phase of the automated control system of the Kaspmorneftegazflot administration;

they will broadly disseminate the leading experience, valuable initiatives of the workers in the sector, provide economics education to 22,500 people, train 1610 new workers and increase the skill of 5690 workers;

according to the program for social development, they will put into operation 40,000 m^2 of housing, provide complete elimination of temporary barracks and resettlement of families into well-built apartments, and plant 3400 trees and bushes;

they will implement work to develop the active and to create new auxiliary services.

The workers of the all-union production association Kaspmorneftegazprom assure the CPSU Central Committee, the Azerbaijan Communist Party Central Committee and the Ministry of the Gas Industry that all of their efforts, knowledge and creative energy will be directed towards the fulfillment of the adopted socialist commitments, and that they will make a worthy contribution to the implementation of the party program for strengthening of the fuel and energy base in the country, and meet the 60th anniversary of formation of the USSR with new achievements.

The collective of the all-union production association Kaspmorneftegazprom invites the associations Azneft', Turkmenneft' and Ukrgazprom to participate in the socialist competition.

The socialist commitments were discussed and adopted at the joint meeting of the council of the all-union production association Kaspmorneftegazprom and the Presidium of the Azerbaijan Republic Committee of the Trade Union of Oil and Gas Industry Workers on 11 January 1982.

Azerbaijan SSR Ministry of the Petrochemical Industry

The Azerbaijan workers have reached the finish line of the first year of the 11th Five-Year Plan by aiming their efforts at the successful fulfillment of the 1981 program.

At the November (1981) Plenum of the CPSU Central Committee, the General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet, Comrade L. I. Brezhnev highly evaluated the work of the republic workers who have reached a confident rise in production in the space of two five-year plans.

The workers, engineering-technical workers and clerical workers of the enterprises and organizations of the oil refining and petrochemical industry of the Azerbaijan SSR have made a contribution to the republic's achievements.

In implementing the decisions of the 26th CPSU Congress and the 30th Congress of the Azerbaijan Communist Party,the workers of the Azerbaijan SSR Ministry of the Petrochemical Industry are aiming their efforts at early completion of the first year assignments in the 11th Five-Year Plan and the adopted socialist commitments.

After broadly unfolding socialist competition among the collectives of the sector for improved efficiency of production and work quality, many collectives of the units fulfilled the annual plan ahead of schedule.

The collectives of the technological units and brigades who completed the annual assignments ahead of schedule made a weighty gift to the 64th anniversary of the Great October Revolution.

The work of the Azerbaijan SSR Ministry of the Petrochemical Industry in 1981 is characterized by stable fulfillment of the planned assignments and the adopted socialist commitments.

The annual socialist commitments were fulfilled to increase the output of products with state sign of quality. Products totalling R 44.5 million were produced above the plan.

The state sign of quality has been awarded to five types of petroleum products. This permitted an increase in the specific weight of the products with the state sign of quality from 27 in 1980 to 39 percent in 1981.

Continuing the program for a radical reconstruction of the oil refining industry of Azerbaijan, major technological complexes were introduced at the Baku Oil Refinery imeni 22nd CPSU Congress, an ELOU-AVT unit and an oil hydropurification unit.

The rated output of a large-tonnage unit of catalytic reforming was mastered in 1981 at the Novo-Baku Oil Refinery imeni Vladimir Il'ich. Guided by the decisions of the November (1981) Plenum of the CPSU Central Committee, and based on the tasks advanced by the General Secretary of the CPSU Central Committee, the Chairman of the Presidium of the USSR Supreme Soviet, Comrade L. I. Brezhnev in his speech at the 26th CPSU Congress, the workers of the sector have defined for themselves the main directions for the further development of the socialist competition in 1982:

early fulfillment of the 1982 plan by all the industrial enterprises and organizations;

further growth in output of products and increase in quality;

fulfillment of the assignments and commitments for supplying products to the consumers in accordance with the concluded contracts;

improvement in the efficient use of oil, guarantee of further deepening of its refining, and reduction in oil and petroleum product loss.

The high evaluation of the achievements of the republic, the activity of the party organization of Azerbaijan that was given by Comrade L. I. Brezhnev at the November Plenum and in the greeting to the agricultural workers inspires the oil refinery workers to new accomplishments.

Based on the high labor achievements of the initiators of the competition in the sector, and aiming their efforts at a further improvement in the efficiency of production, dissemination of the leading production experience, the workers of the oil refining and petrochemical industry are adopting the following socialist commitments:

they will fulfill the annual plan for volume of production by 29 December and will produce R 2 million worth of products above the plan;

they will fulfill ahead of schedule the annual plan for realization of products and will realize commercial products above the plan totalling R 3.5 million.

They will produce in addition to the plan the following products:

20,000 T of diesel fuel;
high-octane automobile gasolines (A-76 and higher), 10,000 T;
aviation kerosene, 12,000 T;
oil road bitumens (viscous and liquid), 10,000 T;

they will guarantee 100 percent of the planned increment in the volume of production through an increase in labor productivity;

they will certify 1 product above the plan for the highest category of quality;

they will guarantee the output of the highest category of quality of products above the plan for a sum of R 1 million;

they will increase the growth of labor productivity by 0.5 percent versus the established assignment;

by realizing and reducing the prime cost of the commercial product, they will achieve an above-plan profit of R 350,000;

they will guarantee loading of the units for deasphaltization of residual petroleum asphalt at the Baku Oil Refinery imeni 22nd CPSU Congress to the rated outputs in the second quarter;

they will complete construction and put into operation a unit to produce nonethylated autmobile gasoline at the Novo-Baku Oil Refinery imeni Vladimir Il'ich in the fourth quarter.

In order to protect the water and air basin in 1982:

they will master the output of water unit No 2 at the Baku Oil Refinery imeni 22nd CPSU Congress. This will increase the volume of circulating water to 80 million m^3/year and reduce the discharges of wastes into the Caspian Sea;

they will recover gases from bitumen production at the Baku Oil Refinery imeni 22nd CPSU Congress. This will permit thermal neutralization of about 5,000 T of gases;

by introducing the suggestions of the inventors and efficiency experts, they will obtain an economic effect of R 5 million;

they will achieve an economic effect from introducing measures for new equipment and scientific organization of labor totalling R 2 million.

They will strengthen the regime of conservation and will save in 1982:

400,000 kW x h of electricity;
25,000 Gcal of heat;
2500 T of conventional fuel;
R 800,000 worth of raw material and materials.

Based on a realization of the comprehensive plans for economic and social development, they will provide housing for the workers of the enterprises and organizations of the ministry totalling 6,600 m^2.

They will expand the master ties with the kolkhozes and sovkhozes and will give them assistance in building the agricultural and cultural-general facilities.

They will improve the skill of 2600 workers.

They will provide training in the system of political education, economic education in the schools of communist labor for 10,000 people in the 1981/1982 school year.

The workers of the oil refining and petrochemical industry of the Azerbaijan SSR assure the Leninist Central Committee of the Azerbaijan Communist Party and the Azerbaijan SSR Council of Ministers that they will multiply their efforts to implement the grand plans of the party and to make a worthy contribution to the fulfillment of the 1982 planned assignments and the 11th Five-Year Plan as a whole.

Adopted by the party-management active members of the Azerbaijan SSR Ministry of the Petrochemical Industry on 24 December 1981.

Main Administration of the Gas Supply System of the Azerbaijan SSR Council of Ministers

The enterprises of the gas supply system of the Azerbaijan SSR, fulfilling the historic decisions of the 26th CPSU Congress for improving the welfare of the Soviet people, and having been actively included in the national socialist competition for early fulfillment of the plan of the 11th Five-Year Plan, have made great advances in 1981 and have guaranteed accident-free work and uninterrupted gas supply to the consumers.

During the first year of the 11th Five-Year Plan, the enterprises of the Main ADministration of the Gas Supply System realized 14.4 million m^3 of natural and 53,255 T of liquefied gas, provide the population with general services totalling R 6.830 million, and gasified 66,244 apartments, including 52,604 in the rural locality.

Natural and liquefied gas has been supplied to 110 cities and settlements of the municipal type, and over 3500 rural population areas. Over 700 industrial facilities, 13,000 communal-general and cultural institutions and over 1600 boiler houses require gas as a fuel and raw material.

The number of gasified apartments in the republic is 1.096 million, including 436,000 in the rural locality.

The level of coverage of gasification in the housing fund on 1 January 1982 was 88.6 percent, including 95.3 percent municipal and 78 percent rural.

Through an improvement in the forms and methods of socialist competition, the creative use of the initiatives of the leading workers and innovators of production, all-possible improvement in labor productivity, reduction in prime cost, improvement in the quality of the manufactured products and mobilization of all the unused reserves, the workers, engineering-technical workers and clerical workers of the enterprises and organizations in the Azerbaijan SSR Main Administration of the Gas Supply System, having studied their potentialities, adopt the following socialist commitments for 1982.

For Basic Activity:

they will fulfill the annual plan for reception and realization of natural gas by 28 December 1982 and will additionally realize 110 million m^3 of gas;

they will fulfill the annual plan for realization of liquefied gas by 30 December 1982;

they will reduce the net cost of each thousand cubic meters of realized natural gas by 0.2% and 1 T of household liquefied gas by 1%; they will obtain a saving of R 50,000 from the reduction in prime cost;

by introducing new quipment, intensifying work for major repair of the gas pipelines, rapid detection and elimination of the causes of gas leaks, optimization of the operating regime of the gas pipelines, they will reduce gas losses in transport by 0.1 percent versus that stipulated by the plan, or by 12 million m^3;

by mobilizing the additional intraservice reserves, and intensifying the regime of conservation and overfulfillment of the assignments for labor productivity, in 1982 they will obtain an above-plan profit of R 20,000;

by improving the use of truck transportation and reducing the unproductive losses of working time they will increase the coefficient of truck fleet use by 2.5 percent versus the 1981 plan, and the coefficient of carrying capacity by 2 percent;

in order to improve the gas supply of the Transcaucasus, they will increase the supply of high-pressure gas to the system of the Transcaucasus main gas pipelines by 130 million m^3;

by fulfilling the assignments for introduction of new equipment and the leading experience, and introducing efficiency experts' suggestions into production, they will obtain an economic effect of no less than R 140,000;

by improving the use of the basic funds they will increase the fund output by 0.1 percent versus the level reached in 1981;

they will train 180 workers in the system of technical and economic studies, will improve the skill and train 145 workers to a second occupation;

by developing and implementing measures to improve the efficient use of gas by the gas-burning units, the national economy of the republic will achieve a conservation of gas fuel totalling no less than R 30,000;

in order to improve control over the technological regimes of gas supply in 1982 it is planned to further develop the remote control complex RITS-1 in the PGU [underground gasification of coal] in Baku;

they will improve the quality of maintenance and the efficient use of protection of underground gas pipelines.

In Industry:

the 1982 plan for the volume of production will be fulfilled by 30 December 1982 and additional products will be realized for R 10,000;

the following will be generated above the plan in a natural expression: 20 T of gasoline and 40 T of liquefied gas;

they will systematically conduct work to improve the quality of the manufacture manufactured products;

through universal and strict regime of conservation and economy, they will achieve the following saving: no less than 40 T of conventional fuel and 5000 kW x h of electricity;

by introducing the new equipment and progressive technology, and mechanization of labor-intensive processes, they will improve labor productivity by 0.6 percent versus that attained in 1981.

In Construction:

they will fulfill the annual plan for contract work by 30 December 1982 and will produce additional work for R 50,000;

they will overfulfill the plan for constructionl-installation work with in-house forces for R 40,000;

they will bring the level of gasification of the housing fund in the republic by the end of 1982 to 88.8 percent, including municipal to 95.7 and rural to 80 percent;

they will improve the quality of the construction-installation work and will guarantee start-up of facilities only with a "good" and "excellent" evaluation;

they will bring the gasification of the Nakhichevanskaya ASSR to 100 percent;

they will build a recreation base for the workers, engineering-technical workers and clerical workers of the Azerbaijan SSR Main Administration for of the Gas Supply System.

For General Services:

they will fulfill the annual plan for realization of services for the population by 28 December 1982;

they will provide additional services of R 76,000, including R 57,000 in the rural locality;

they will fulfill the annual plan for realization of liquefied gas to the population by 29 December 1982; they will realize above the plan 300 T of liquefied gas, having supplied additional services to the population totalling R 30 R 30,000;

in order to fill the cylinders with liquefied gas at the gas filling station in Ali-Bayramly, they will introduce another two UNBN-01-04 units;

they will set up three brigades in the Azgazstroy trust which operate on a single order;

they will send R 4,600 for improvement in the working conditions of the workers of general services;

by improving educational work and strengthing control over work of the enterprises, they will eliminate violations of the regulations for serving the population;

in order to improve the communal-general services for the population, they will replace 6,000 household and gas appliances in 1982;

they will support the leading initiative of the repair and construction administration of the PGU of Baku on taking over the supervision of the gas enterprises of the Agdash and Geokchay regions in repairing worn-out gas pipelines.

The labor collectives of workers, engineering-technical workers and clerical workers of the Main Administration of the Gas Supply System of the Azerbaijan SSR invite the gas workers of the Moldava SSR and Turkmen SSR to participate in the socialist competition for early fulfillment of the plans and socialist commitments for 1982, the second year of the 11th Five-Year Plan.

Socialist commitments were discussed in the collectives of the enterprises and organizations, and were adopted at the meeting of the management, party and trade union active members of the Azerbaijan SSR Main Administration of the Gas Supply System on 13 January 1982.

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FUELS

NEW INSULATION MATERIAL INCREASES OIL WELL OUTPUT, EFFICIENCY

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 16 Feb 81 p 4

[Article by A. Lyatifov, chief engineer of the "Azneft'" association: "Complete Output from the Well"]

[Text] There are many reasons which limit complete recovery of oil from the rocks. The main reason is the inrush of formation water or water injected to maintain the "tone" of the field. In the final analysis, a drastic reduction in the well output occurs, and complete flooding in some cases. Without bringing to the surface even half of the fuel contained in the bed, the well ceases to operate.

This problem has now acquired primary importance since the working of many of the country's fields has reached a stage where flooding of the oil wells has acquired considerable proportions. This is manifest especially acutely at the old fields. The majority of the Azerbaijan fields belong to this category. Over 800 repair and insulation operations which prevent the access of water are carried out during the year as an average for the association "Azneft'." Over 12,000 T of the most valuable construction material, cement, are consumed, and the effectiveness of the output, to put it directly, is insufficient. The following figures indicate this: extraction of one ton of oil requires simultaneous pumping out of over 10 T of formation water, which, moreover, requires further purification. This results in additional expenditures.

In close contact with the production engineers, a group of colleagues from the Azerbaijan Scientific Research and Planning Institute of the Oil Industry, Sh. Aliyev, Sh. Shirinov, Ye. Zhirnov, B. Sultanov, Yu, Sokov and others succeeded in developing a new insulation material which shows promising results in practice. It is based on the wastes of the oil refining industry. Pumped into the well in definite proportions, it lets the oil through, but are difficult for the water to permeate.

The new insulation material that was developed by the scientists has already been tested in 30 wells of the oil and gas extracting administrations of "Azneft'." The following comparison indicates its efficiency. For one insulation operation using the traditional cement suspension, the brigade of repairmen spent up to 3-5 days which cost R 3,500. When the new material was used, this same work required only 4-5 hours. In this case, the process was done by the field forces without the participation of the major repair brigade. The daily average output of fuel in the worked wells increased 4-fold and water recovery diminished 7-8-fold. An additional 5,000 T of oil was obtained.

The advantages of the new method increase many times because it does not require accurate information regarding the location of the water-saturated beds. There is also another advantage: the use of oil refining industry wastes solves a number of questions associated with environmental protection, greatly increases the service life of the field equipment, and facilitates the working conditions of the workers.

The simplicity of the suggested technology and the high efficiency of the experiment provided the grounds to expand the experimental field work. The institute jointly with the association "Azneft'" is currently planning to do this work in the oil extracting administrations imeni 26 Bakinskikh komissarov, "Karadagneft'," and "Muradkhanlyneft'."

The use of the new reagents will help the Azerbaijan oil workers to considerably increase the oil bed output.

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FUELS

NOYABR'SK OIL FIELD DEVELOPMENT CONTINUES

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 16 Feb 82 p 1

[Article by V. Zhilyakov, correspondent of TASS: "Each Step Is an Advance"]

[Text] More railroad carriers with diverse freight are now taking off towards the Yamal'skiy tundra. Their path lies towards the Noyabr'sk group of fields, the new pressure point of the Tyumen' oil workers, builders and power engineers. This is the northernmost oil extracting region in West Siberia. By the end of the five-year plan it should yield 25 million tons of liquid fuel per year. It would take Baku about 100 years to reach this level of extraction, for example.

"The decisions of the 26th CPSU Congress are aimed at the increased rates of development of the oil extracting industry," says the first deputy head of Glavtyumenneftegaz P. Korovin. "The experience of accelerated development of the difficult-to-reach Samotlor helps to maintain these rates. For many years, this field has provided the chief increase in oil extraction in the country."

Each step of advance to the new Tyumen' oil has been thoroughly verified beforehand. The forces and equipment have been invested economically so that they bring the highest output faster. All the preliminary posts of the oil workers, Surgut, Nefteyugansk, Uray and Nizhnevartovsk have been constructed on the shores of rivers. There was no other path except water then. Noyabr'sk has been founded on the Surgut-Urengoy railroad. It is still under construction, but is already serving the people. As much freight arrives here on this railroad in a month, as all of the Ob' oil region received by navigation 15 years ago.

An enormous all-terrain vehicle "Urgan," with two cabins, approaches the platform with drilling equipment. It is driven by Zinur Khabibrakhmanov. Taking advantage of the absence of his assistants, I travel with him to the Sutorminskoye field. I learn on the way that the brigade of A. Poltavets in which Khabibrakhmov works is operating on the accord contract. The duty of the drivers is to bring machines to the field in 6 days, faster than stipulated by the schedules.

"We are able to achieve high productivity," notes the driver, "because of the high-speed concrete road which has recently been laid. I do not remember a case where the boreholes in the north were brought in on a concrete road. It was always the other way around, the drillers always left the field on a concrete road, but got to it on winter roads or on helicopters. This naturally increased the cost of the work.

The Noyabr'sk concrete road will link several more fields this year. It is being built by the Samotlor method. Excavators first take peat from the swamp to the mineral bottom. Then the formed trench is filled with ground and the slabs are laid on top.

The platform at the Sutorminskoye field where the borehole is being installed is also sprinkled with ground and resembles an enormous sandy island. When the forest tundra begins to thaw in summer, therefore, water is not poured in into the machines. It has been decided to work the field by the cluster method. The essence of the method is that, without leaving one base, the drillers drill over 60 wells, aimed like a tentacle, in different directions. This method of building underground shafts reduces the expenditures for building up the field several times, since the pipelines are reduced and it becomes easier to service the wells.

A housing complex is being erected next to the pine grove. The watches of installers, tunnelers and geophysicists will live in it. All the settlement structures have been made in detail in the GDR and were shipped here by railroad.

The operational plan for developing the Noyarb'rsk oil region must become a standard. This will allow the Glavtyumenneftegaz to provide the country with over 1.5 billion tons of oil in the 11th Five-Year Plan. This was the amount that was extracted during the entire time of working of the Tyumen' fields.

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BRIEFS

UDMURTIYA OIL--The oil workers of Udmurtiya extracted the 10 millionth ton of fuel yesterday since the beginning of the five-year plan. Two years were required in the last five-year plan in order to reach this quantity of raw material. Automated oil extracting fields, and large complexes for collection and purification of fuel are now active in Udmurtiya. An international collective of oil workers has planned to extract this year the greatest quantity of fuel in the history of development of the autonomous republic's oil industry, over 9 million tons. [Text] Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 17 Feb 82 p 1] 9035

OIL BED THERMAL TREATMENT--Usinsk (Komi ASSR)--The unit for production of steam can compete with a small active volcano. The installation of this unit was completed on the taiga section of "Permokarbon." Thermal treatment of the productive deposits has begun here on the Usinsk oil field. The unit is capable of producing up to 40 T of steam per hour at pressure of 160 atmospheres and temperature of about 350 degrees centigrade. "Kompress" will be applied to the beds that lie at depth of 1500 meters. This is the first time that such technological operations have been done in the northern latitudes. This oil is a good competition in its qualities with the known deposits of Yarega which are being worked by the mine method. Especially strong asphalt, stable paint for cars and lubricants are made from it. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 14 Mar 82 p 1] 9035

GAS PIPELINE--Natural gas has been supplied to south Karakalpakiya on the main Turtkul'-Beruni-Ellikkala pipeline which has been laid in West Kyzylkumy. It is 150 km long. On its way, the gas "river" crossed the Amudar'ya and passed over sand dunes. The branches will link the main line with all the populated areas in the region in this five-year plan already. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Feb 82 p 1]

YEARLY GAS OUTPUT--The gas pipeline Nizhnevartovsk-Tomsk-Kuzbass has reached the rated output of 8.2 billion m^3 of gas per year. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 11, Mar 82 p 5] 9035

PIPELINE TESTING--The prestart-up tests were begun on the 214-kilometer Yelep-Kursk route of the main Urengoy-Uzhgorod gas pipeline. The Kursk section of the giant gas river will become an important link in the unified system of gas pipelines of the European sector of the country. With the arrival of the Urengoy gas to the central chernozem zone, the supply of blue fuel to several oblasts will be considerably improved. The builders have already begun preparatory operations on the new section of the gas pipeline, from Kursk to Sumy. [Text] [Article by V. Kulagin, in-house correspondent of IZVESTIYA] [Moscow IZVESTIYA in Russian 10 Mar 82 p 1] 9035

OB' REGION OIL--The oil workers of the Ob' region have started developing the new Malo-Chernogorskoye field in the Tyumenskaya Oblast. Installation was started yesterday of the drilling units and preparatory work has unfolded for construction of the production facilities. The field at the end of the year will already provide the first 20,000 T of oil. [Text] Minsk SEL'SKAYA GAZETA in Russian 13 Feb 82 p 1] 9035

HIGH-STRENGTH PIPING--A product whose output was started at the Volga pipe plant is intended for the main gas pipelines which are under construction in the extreme north and hot south. The enterprise fabricated yesterday the first batch of high-strength large-diameter pipes which withstand pressure of 75 atmospheres. This success of the Volga workers is shared by right with the metallurgists of the Novolipetsk plant and the Zhdanov "Azovstal'," the collectives of the scientific research institutes where economical and high-strength metal and new technology of electric arc welding were created, in a word, the entire complicated set of problems associated with production of pipes for gas trunklines was solved. The collective of the Novolipetsk plant became the first to master production of low-alloy steel treated with synthetic slags. Metal at "Azovstal'" is now welded and rolled using this technology. The giant sheets which are made in Zhdanov are sent to the pipe-welding mills. The most experienced operators N. Karamshin, I. Ivashchenko and others are at the control panels. Of course,they have had to weld many experimental batches of precisely the same pipes. But now everyone wants the first industrial batch to be excellent. Now the first sheet coming for forming is being turned into a unique pipe. N. Karamshin lays a fire line and then the second outer seam. G. Baranov finishes welding the inner, last seam. The "head" pipe is 11.5 meters long and is sent for checking by ultrasound and x-ray. The product receives the highest assessment. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 27 Feb 82 p 1] 9035

NAPHTHALENE INSULATION--Baku--The Azerbaijan scientists have created an insulating coat made of naphthalene for the oil wells. Steam or hot water is usually injected into the depths to displace the oil from the beds. However, they lose roughly 70 percent of the heat in the well shaft. This reduces the effectiveness of the modification. The scientists of the institute "AzNIPIneft'" have suggested placing two pipes in the well to preserve the heat. The pipes are inside of each other. The space between them is filled with some kind of porous substance and then liquid naphthalene. When steam or hot water passes through the pipe, the naphthalene evaporates and creates a gas curtain which prevents their cooling. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 3 Feb 82 p 1] 9035

CASING-HEAD GAS USE--Yuzhno-Sakhalinsk--The oil workers who are developing the Monginskoye field on Sakhalin have effectively used casing-head gas which was previously burned at the fields. A gas-turbine unit which supplies electricity to the boreholes has been started up here. The boiler houses in the settlements of Nogliki and Katangli operate on casing-head gas from the Sakhalin fields. The influx of casing-head gas increases with a rise in oil extraction. It is planned to lay a pipeline to the northernmost industrial regions of the island for its more complete utilization. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 17 Feb 82 p 1] 9035

CHUKOTKA OIL--The Soviet scientists made a positive forecast on the oil and gas content of the intermontane depressions of southeast Chukotka over 15 years ago. Time has confirmed these predictions. The influx of oil was first obtained in a well that was drilled in south Anadyrskiy depression near the northern Koryakskiy mountain foothills. Then a gusher erupted on the coast of the Bering Sea, in the region of the Khatyrskiy depression. The output of oil was so strong that the gusher was successfully suppressed only in 20 days. The geologists, geophysicists and drillers of Chukotka are continuing the search. [Text] Moscow IZVESTIYA in Russian 27 Feb 81 p 2] 9035

GAS OUTPUT--The Nizhnevartovsk-Tomsk-Kuzbass gas pipeline has reached its rated output, 8.2 billion m^3 of gas per year. The last gas compressor station has been put into operation here. The "river" of casing-head gas which begins in West Siberia feeds the industrial centers of Kuzbass, Novosibirsk, Kemerovo and Tomsk. [Text] Moscow KRASNAYA ZVEZDA in Russian 7 Mar 82 p 1] 9035

OIL GUSHER--A powerful oil and gas gusher erupted from the 3,800-meter mark in the Zhanazhol field in the Aktyubinskaya Oblast. This confirmed the forecast of the existence of a second oil level here. [Text] Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 23 Feb 82 p 1] 9035

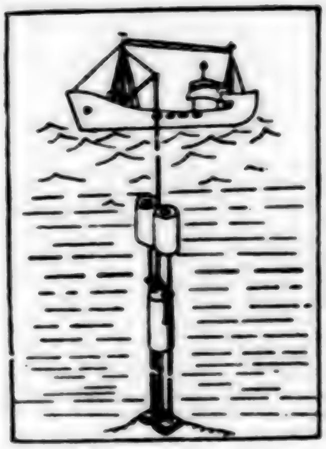
COAL OUTPUT INCREASE--The extraction of coal in the first 6 months of 1981 has been increased by almost 2 million T as compared to the same period of last year by the miners from the association "Ekibastuzugol'." [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 23 Feb 82 p 1] 9035

MANGYSHLAK OIL--The 200 millionth ton of oil since the beginning of working the field was extracted on 12 August 1982 on Mangyshlak Peninsula. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 23 Feb 82 p 1] 9035

ZHILANDY GAS--An industrial influx of gas was obtained at the new Zhilandy field from a record depth for Mangyshlak, 3,412 meters. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 23 Feb 82 p 1] 9035

YAMBURG DEVELOPMENT--After a 6-day journey under the harsh conditions of the Arctic, the landing party of first builders from the production association for gas extraction "Nadymgazprom" arrived in Yamburg the other day. The Yamburg gas condensate field which is located on the Tazovskiy Peninsula is the tomorrow for the country's gas industry. According to the predictions of the geologists, the new unique northern storehouse is second only to the giant Urengoy in its explored reserves. The party and government have planned to put the field into operation in the shortest possible time. Who is capable of developing the field and beginning industrial extraction of the most valuable hydrocarbon raw material? There were no two opinions: the Order of the Red Banner of Labor association "Nadymgazprom" would go to the field. Its illustrious collective sent their specialists not long ago to the just discovered Urengoy. The Nadym workers who have accumulated a lot of experience in operating the Medvezh'ye field helped their neighbors with manpower, equipment and materials. Urengoy is now standing firmly on its feet and Yamburg has called the Nadym gas workers. The column of transport machines, having setting out on its first trip, carried housing trailers, boiler house, two power plants and a cafeteria, in a word, everything necessary to secure the future settlement of the Yamburg field. The column was supervised by the head of the production-dispatcher service of the Medvezh'ye gas field administration G. P. Zatsenko. The wind began stronger, the frost set in, but the people forged ahead. Difficult 300 kilometers lay ahead. The tractor and trailer rig came to the assigned point on the sixth day. The team of first builders of the Yamburg field began to work in order to settle these harsh places more rapidly and to give the motherland the gas from the new field. [Article by A. Trutnev] [Text] [Moscow KRASNAYA ZVEZDA in Russian 7 Mar 82 p 1] 9035

UNDERWATER DRILL --The first domestic underwater unit for impact drilling has been successfully tested in the Barents Sea. It makes it possible to take core samples of the bottom rocks at depths to 150 meters. The creators of the unit are the colleagues of the laboratory of offshore exploration equipment of the production association "Yuzhmorgeologiya." They used a number of successful technical solutions. In particular, for the first time in world practice, they used an electromagnetic hammer for underwater work. The unit can be lowered overboard any ship, all the way to a fishing trawler, with the help of a trawl winch. The floating stabilizing system with flexible guide cables guarantees the correct position of the unit on the ground when the wave action on the sea reaches 3 points. The hammer is controlled from a knob panel. The tests indicated the high efficiency of the unit. It took less than an hour to carry out the entire technological cycle, lowering to the bottom, drilling a five-meter well, and lifting the equipment to the deck. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Mar 82 p 2] 9035



OFFSHORE TRANSPORT TUNNEL--The oil wells in the republic are going farther out to sea, "leaving" on the surface islands of stationary offshore bases or floating platforms. People and cargo have to be regularly brought here. The main difficulty is guaranteeing their reliable transfer from the arriving ships to the handmade island in choppy seas. How can this be done? The specialists of the institute "Gipromorneftegaz" believe that ships are not mandatory at all, and it is even dangerous to moor to the offshore platforms. They can be successfully left at a certain distance if a unique type of suspended bridge is used for transporting the people and cargo. The draft of this bridge was developed in the institute. It would probably be more accurate to call this device a tunnel: it is an overpass pipe bent in the shape of a horseshoe. A hollow sphere with cabin for people and cargo moves inside it. Although the sphere travels for part of the way underwater where the bend in the pipe has been lowered, the designers are convinced of the complete safety of this method of moving people and cargo. In particular, because of the hinged attachment of the ends of the "tunnel," the entrance openings will remain at deck level, regardless of the dancing of the ship on the waves. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Jan 82 p 4] 9035

WELL REPAIR--Silence at the borehole is alarming. It means that the tunnelers have trouble. One of the main causes of emergency situations is a crack in the well wall. Tunneling can only be renewed after it is filled with a cementing solution. This is a labor-intensive and lengthy operation. The specialists of the Leningrad All-Union Scientific Research Institute of the Technique and Equipment of Exploration have created a fast-binding mixture to reduce the time for "healing" the well 10-fold. The new method reduces the use of cement 30-fold and has a high degree of reliability. It is also important that the composition of the developed mixture includes components which are manufactured fairly extensively by our industry. The innovation has recommended itself excellently among the explorers of the depths in the Ukraine and Central Asia where it has been tested. The commission of the USSR Ministry of Geology has recommended it for series production. [Article by G. Raylo, correspondent of the RSFSR Ministry of Geology press center] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 2 Mar 82 p 2] 9035

ACCELERATED OIL EXTRACTION--How can the lifting of oil from the wells be accelerated? Especially from the superdeep wells? The scientists and specialists of the Azerbaijan Scientific Research and Planning Institute of the Oil Industry (AzNIPIneft') have suggested using the aeration method for this purpose. The process is implemented using an electrical short circuit. Electrodes are installed for this purpose on the ends of the column of pumping-compressor pipes. A discharge flashes between the electrodes. Numerous gas bubbles are created in the liquid under the impact of of the unique electrical "whip." These bubbles help to lift the oil upwards. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Jan 82 p 4] 9035

SULFUR DIOXIDE USED--Sulfur dioxide which gives the drillers and oil workers many problems has been forced to benefit the field workers of the oil and gas drilling administration "Ordzhonikidzeneft'." They have used an effective method of intensifying the beds for several years to displace the viscous oil of their fields, intrabed combustion. The underground hearth thins the fuel and easily drives it towards the well. But complicated and expensive electric heaters have to be lowered under the ground merely to obtain this hearth. The efficiency experts of "Ordzhonikidzeneft'" have succeeded in getting rid of them. They were helped in this by sulfur dioxide which easily ignites when strongly compressed. It is now worth it to feed compressed air into the well, and a fire moves through the bed in several seconds. This modification of the tested method for increasing the oil output of the bed reduces the consumption of electricity at each well by more than a fourth. Over 30 wells in the oil and gas extracting administration "Ordzhonikidzeneft'" are now operating on the new method. [Text] [Baku VYSHKA in Russian 24 Jan 82 p 2]

SUPERDEEP WELL--A place has been selected in the very heart of the Kyzylkum desert for the beginning of a superdeep well. Several generations of geologists, graduates of the Tashkent University and Tashkent Polytechnical Institute have discovered thousands of fields, making their native kray a hundred times richer. Hundreds of reports on the routes of the geologists, the results of aerospace photography and millions of tests and analyses all had to be taken into consideration, compared and interpreted in order to select the place from which it would be most convenient to glance into the depths of Kyzylkum to an unprecedented depth. By the way, by other measures, this depth can seem ordinary, only 6,000 meters. This is what is interesting: the drill will enter the bedrock right from the start. For comparison: if they undertook to drill this well in another zone of Central Asia, say on the edge of the Fergana depression, they would have to drill 10 kilometers to reach the bedrock. Of course it is not simply a matter of climbing the Tamdytau. Comparing the structure of the depths in Kyzylkum, the Urals and Tyan'-Shan', the geologists discovered the laws which indicate the existence of a single geological province. It is nothing that the Urals and Tyan'-Shan' are separated by thousands of kilometers. The structures of West Kazakhstan, Sultan-Uizdagskiy ridge which rises to the south of the Aral Sea, and the Tamdytau Mountains which were discovered in the depths or emerge onto the surface have become the missing links in the giant arch. A new term, the Ural-Tyan'-Shan'-folded zone has entered science. Its existence has also been confirmed both by the classic geological studies, magnetic surveys, space photographs, and by many other methods. The search has continued to the east, and now the term has been supplemented: "Ural-Mongolian zone." This zone has everything: ferrous, nonferrous, precious metals, salts, phosphates and energy carriers. This is why dozens of institutes are participating with the Uzbekistan Ministry of Geology, the coordinator. "Thus the finish is a depth of 6,000 meters. It is most likely the intermediate point," says the first deputy minister of geology of the Uzbek SSR V. Gar'kovets. "By that time we will have accumulated additional experience and we will probably continue the route deeper." [Text] [Article by Z. Taubenshlag, correspondent of TASS] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Mar 82 p 2] 9035

INDUSTRIAL CENTER--An important construction site has begun in the steppes of the Astrakhanskaya Oblast with the laying of a housing tract. The formation of an industrial center will begin here in this five-year plan on the basis of the Astrakhan gas condensate field. The first multistory houses are being erected not far from the Astrakhan railroad station. Facilities of cultural and general purpose are being raised at the same time. "Having started with the housing we are striving to provide good conditions for the formation of stable work collectives," says the head of the production construction-installation association "Astrakhan'promgazstroy" A. Nadezhdin. "The construction site is enormous and many people are coming here from all ends of the country." The scales of the construction site are a match for the field. It is among the largest in the European sector of the country. The program of its development stipulates the start-up in 1984 of facilities for extraction and reprocessing of 3 billion m^3 of gas per year. Units will be introduced in parallel for the reprocessing of sulfur and purification of the gas condensate. The creation of the optimal conditions for the work of a large collective of builders, extractors and gas reprocessers will be promoted by the resolution of the transportation problem. The highway which links the oblast center with the construction siteis being reconstructed at accelerated rates. The biography of yet another important construction site of the five-year plan has begun. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 10 Feb 81 p 1] 9035

PIPE-LENGTH CARRIERS--Komi ASSR--Manufacture of heavy pipe-length carriers based on the K-701 tractor has begun at the plant "Ukhtagazstroymash." The equipment of increased passability is designed for the builders of the pipelines of Siberia and the extreme north. [Text] [Moscow SEL'SKAYA ZHIZN' 18 Feb 82 p 1] 9035

EARLY PLAN FULFILLMENT--Nefteabad--The search of the explorers of the depths has been crowned with success. The collective of the Nefteabad administration of drilling operations completed the drilling of two new wells and turned them over to the operators a month ahead of schedule. The efficient use of modern technology, the use of diamond drill bits which increase the rate of drilling and improve its quality helped the leading collective to successfully resolve the task for a guaranteed increase in oil and gas extraction. The administration was the first in the association "Tadzhikneft'" to cope with the fulfillment of the quarterly assignment. The explorers of the underground levels have drilled 8500 running meters of wells. The brigades of foremen Zoir Boirov, Saydullo Karimov and Nikolay Antoniad are ahead of the competitors for the early fulfillment of the annual plan. They are systematically overfulfilling the shift norms. Having started an intensive watch in honor of the 60th anniversary of formation of the USSR, the drillers of Nefteabad have been committed in the second year of the five-year plan to pass 45,000 running meters of rock, 5,000 more than last year. [Text] [Dushanbe KOMMUNIST TADZHIKISTANA in Russian 17 Mar 82 p 1] 9035

HEAT EXCHANGER--Kiev--The specialists of the institute "Soyuzgazproyekt" jointly jointly with the scientists of the Institute of Gas of the Ukrainian SSR Academy of Sciences and the Kiev Polytechnical Institute have created an efficient heat exchanger for recovery of heat from compressor stations of main gas pipelines. For the first time, the compressor stations which have been installed almost every 100 kilometers on the enormous distance of the country's gas route have begun to fulfill and additional role of powerful boiler houses which heat the workers' settlements, animal husbandry barns, greenhouses, etc. [Article by S. Luzgan] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Feb 82 p 1] 9035

UNDERGROUND GAS STORAGE--Work has started to create the largest underground gas reservoir for Leningrad. No one has ever seen these fuel warehouses. They are located at a depth of several hundreds of meters and are a certain combination of underground structures which reliably hold enormous quantities of gas that is pumped here by special wells. This is essentially an artificial gas field. These reservoirs are being made close to the route of the gas pipeline which supplies the city. In the summer when the fuel demand is reduced, its surpluses are pumped into the underground warehouses. Hundreds of millions of cubic meters of gas are accumulated here. In winter, when the demand drastically rises, the reserves can be gradually consumed, as if supplying an additional gas source. Drilling of producer wells has now begun on the territory of the new reservoir which has been explored by the geologists. Laying of underground piping and construction of a compressor station come next. [Article by C. Artem'yev] [Text] [Moscow IZVESTIYA in Russian 1 Mar 82 p 2] 9035

NEW OIL FIELD--Borehole No 19 on the Arak-Dalaterek field is the only one of its kind in Kabardino-Balkariya. An influx of oil was obtained from the well during testing from a depth of 5,180 meters. The best brigade of drillers from the Malgobek administration under the supervision of A. Galayev drilled it in 3 years. The introduction of progressive technology of drilling, skilful organization of labor and harmony of the international collective allowed the brigade to reach the planned depth of the well with the minimum outlays almost 2 months ahead of the normal schedule and to conserve about a million rubles. The drillers conserved R 120,000 merely through thrifty consumption of materials, reagents and tools. [Article by L. Leont'yeva, in-house correspondent] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 16 Feb 82 p 1] 9035

EXPLORATORY WELL--A well placed in the center of the field has helped to confirm the predictions of the geologists regarding the raw material reserves under the active Vuktyl gas condensate field. The brigade of the foreman I. Glinskiy has already begun to drill the shaft. It remains to traverse 6,500 meters in order to reveal the second bottom of Vuktyl. "Many collectives are helping us to cope with this task," said the foreman I. Glinskiy. "The collective 'Uralmash' which made the drilling unit trusted its testing to our brigade. Super-strong pipes and equipment have been supplied by the plants in the Ukraine, Georgia and Azerbaijan. We, the drillers, have learned the skill of drilling great depths at the wells of the Checheno-Ingushskaya ASSR." The geologists link the discover of new productive layers to the deep exploration of the Vuktyl field. Their operation can be continued without additional expenditures, on the active field. [Text] [Moscow IZVESTIYA in Russian 25 Mar 81 p 3] 9035

ARTEM GAS PRODUCTION--A lot of work to preserve the level of extraction of liquid fuel has been done in the second year of the 11th Five-Year Plan by the collective of the third field of the oil and gas extracting administration "Artemneftegaz." After widely expanding competition for a worthy meeting of the 60th anniversary of the formation of the USSR, the collective has already extracted since the beginning of the year an additional more than 20 T of oil and 65,000 m^3 of gas from the wells located on the northern fold of the sea of Artem Island. Competent selection and implementation of a set of geological and technical measures fostered the achievement of these indicators. Fifty measures have been taken in the last 2 months. They have resulted in an additional extraction of 325 T of oil. Thus, the attention of the geologists of the service was attracted to well No 661 on the section of foreman Agamali Yaftum which yielded 1 ton of fuel. After studying the data of the field studies and the logging diagram, they decided to shoot the productive well. The calculation was right, 0.8 T of oil more than before began to be obtained from the well. Here is another example. Well No 749 has been idle for almost a year. After normalizing operations were conducted and the face zone was treated with adsorbent, the well began to operate with output up to 1 T of fuel per day. "Before the end of the year, we have to put yet another idle well into operation," says the senior geologist of the field, Sh. Khalilov. "Repair-normalizing operations will begin there in the near future. Thus, the inactive well fund at the field will be reduced to zero." The operators G. Litvinchuk, F. Mamedov, N. Aliyev, Z. Bikineva, N. Agamaliyev and foreman A. Aliyev worked intensively in the shock-worker week dedicated to the chemists of the country. [Article by S. Bagdiyan, general correspondent of VYSHKA] [Text] [Baku VYSHKA in Russian 14 Mar 82 p 1] 9035

CSO: 1822/132

PIPELINES

UDC 621.643.002.2

GAS PIPELINE CONSTRUCTION FOR 11TH FIVE-YEAR PLAN OUTLINED

Moscow STROITEL'STVO TRUBOPROVODOV in Russian No 2, Feb 82 pp 5-6

[Article by A. K. Dertsakyan, Ministry of Construction of Oil and Gas Industry Enterprises: "Central Construction Sites of the Five-Year Plan"]

[Text] The successful development of the fuel and energy complex is one of the most important tasks of the 11th Five-Year Plan. During the 11th Five-Year Plan, extraction of gas will increase by 195 billion m^3 as compared to 1980. In order to supply this additional volume of gas to the consumers, it is necessary to build 48,000 km of main gas pipelines (of them 23,000 km with diameter 1420 mm) and 320 compressor shops with rated output of about 25 million kW.

All the gas pipelines are necessary for the national economy, however the five main gas pipelines West Siberia-center of the country and the export Urengoy-Uzhgorod gas pipeline are exceptionally important for the country's economy. In his speech at the November (1981) Plenum of the CPSU Central Committee, Comrade L. I. Brezhnev called these gas pipelines the central construction sites of the five-year plan. It is precisely the transport output of these six gas pipelines that should guarantee the pumping of the entire increase in gas extraction. Fulfillment of the set tasks requires the maximum use of the achievements of science and technology in the area of gas transport, the use of industrial methods, and new organizational and technological solutions.

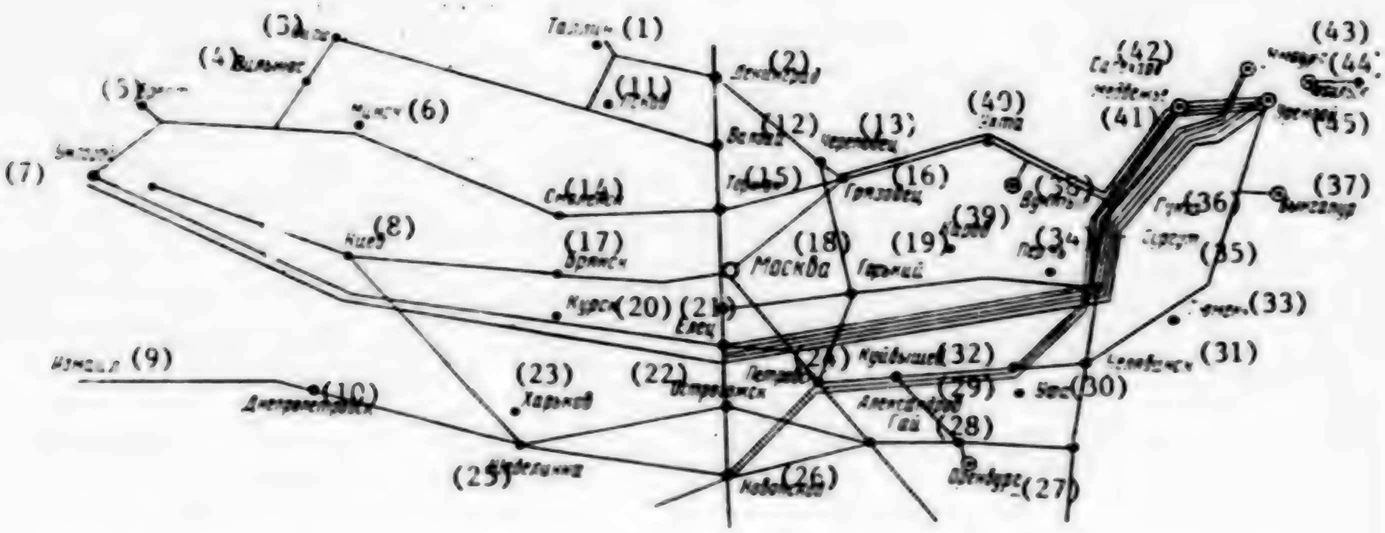
The specialists of the Ministry of Construction of Oil and Gas Industry Enterprises jointly with the specialists of the Ministry of the Gas Industry, Gosplan, Gosstroy and USSR State Committee on Science and Technology did early scientific research and planning-survey work to reveal the optimal routes for the main gas pipelines from West Siberia to the center of the country, to define the technological and design parameters, the working pressure, the unit output of the gas pumping units, the temperature of the transported product, etc. They examined variants of gas transport at pressures 7.5, 10.0 and 12.0 MPa using pipes with diameter of 1420 and 1620 mm, with placement of the compressor stations at distances of 60-250 km from each other.

The specific transport indicators of 1000 m^3 of commercial-grade gas through a gas pipeline 1420 mm in diameter with working pressure of 7.5 MPa and 10.0 MPa for metal- and capital investments, operating expenditures and adjusted outlays are approximately equal. However, the rated output of the compressor stations of the gas pipeline designed for pressure 10.0 MPa is 10-12 percent lower than designed for pressure of 7.5 MPa. It is especially necessary to stress the considerable efficiency of the gas pipelines of the new class because of the conservation of labor outlays. According to the calculations of the specialists, the labor outlays must be reduced by 24-26 percent. This is of decisive importance with the current demographic business conditions.

With regard for the real potentialities of the domestic heavy industry and the pipeline construction industry, it was decided to build and put into operation in 1981-1985 five main gas pipelines from West Siberia to the center of the country, the gas pipeline Urengoy-Uzhgorod, distribution gas pipelines in the central regions of the country, gas pipeline branches to the consumers, create new and expand the active underground gas reservoirs. In addition, technological communications lines must be laid, along-route roads, housing and cultural-general purpose facilities erected. In the current five-year plan it is also necessary to begin construction of another three gas pipelines from West Siberia to the center of the country. Their start-up is stipulated in 1986 and 1987.

These gas pipelines (see plan) which are to be erected in the 11th Five-Year Plan have a diameter of 1420 mm and are designed for working pressure of 7.5 MPa. The compressor stations (CS) are generally arranged at a distance of 100-130 km from each other. The compressor stations will be equipped with units with output of 6,000, 10,000, 16,000 and 25,000 kW with drives from gas and aviation turbines, ship and electric engines. The firstborn of the 11th Five-Year Plan, the Urengoy-Gryazovets gas pipeline extending about 2500 km, has already been opened. Construction has been completed of the line section of the Urengoy-Petrovsk gas pipeline extending over 3000 km with 24 compressor stations. Simultaneous construction has begun on two gas piplines, Urengoy-Novopskov extending 3600 km with 30 compressor stations, and Urengoy-Uzhgorod (I) extending 4500 km with 41 CS. For the first time in domestic and world practice, three giant gas pipelines with diameter 1420 mm, and total length of over 10,000 km are being built at the same time. By the end of the five-year plan, another two gas pipelines should be built and operating, the Urengoy-central regions of the European sector of the country. These gas pipelines extend approximately 3400 km each with 30 compressor stations on each.

All five gas pipelines West Siberia-center of the country and the export gas pipeline Urengoy-Uzhgorod are being built in a central direction in one corridor. Despite the fact that the route of the export gas pipeline is approximately 150-170 km longer in a central direction which requires 2 more compressor stations, the volumes of capital investments and labor outlays are lower here than in a northerly direction. The central direction is also the most labor-saving. On 70 percent of the route, the construction and installation operations can be carried out year round. As a result, the annual rate for comprehensive mechanized production line here is higher. In addition to eliminating the seasonal nature of construction by making the routes in favorable natural-climate and economic conditions, combining the gas pipeline routes drastically reduces the losses of time, road transport expenditures and the inevitable losses of cadres during the routine rebasing of the construction subdivisions from one route to another.



Plan of Main Gas Pipelines

Key:

1. Tallinn
2. Leningrad
3. Riga
4. Vilnius
5. Brest
6. Minsk
7. Uzhgorod
8. Kiev
9. Izmail
10. Dnepropetrovsk
11. Pskov
12. Valdai
13. Cherepovets
14. Smolensk
15. Torzhok
16. Gryazovets
17. Bryansk
18. Moscow
19. Gor'kiy
20. Kursk
21. Yelets
22. Ostrogozhsk
23. Khar'kov
24. Petrovsk
25. Shebelinka
26. Novopskov
27. Orenburg
28. Gay
29. Aleksandrov
30. Ufa
31. Chelyabinsk
32. Kuybyshev
33. Tyumen'
34. Perm'
35. Surgut
36. Punga
37. Vyngapur
38. Vuktyl
39. Kirov
40. Ukhta
41. Medvezh'ye
42. Salekhard
43. Yamaurg
44. Noril'sk
45. Urengoy

After concentrating the main gas pipelines of the 11th Five-Year Plan in one corridor, the planners, builders and operators significantly improve the quality of the entire investment process as a result. This makes it possible to use a unified system for planning, building and providing the equipment and materials for the gas pipelines to be built, creation of a year-round operational passage along the route and implement a unified system for energy supply, cathode protection, technological communication, and systems of automatics and remote control. A new qualitative phenomenon in the organization of construction has been achieved by using a single construction corridor. The construction-installation organizations receive a permanent section of the route and construct on this section all the gas pipeline branches. The possibility of working on this section for a minimum of 5-7 years will eliminate the commotion and hurry and will generate a feeling of responsibility for the entrusted volume of work. Sections of the route 80-120 km long have been assigned to the production lines depending on the construction conditions (swampiness, presence of rocky ground, transport support, number of multiple-branch junctions, junctions through railroads and roads, etc.). On their sections, the builders have the opportunity to create well-built up route cities, pipe-welding bases, to plane permanent railroad stations for reception of pipes, equipment and materials, rapid communications assemblies, set up warehouses, etc. The question of building the compressor stations is being solved in a similar manner.

Organizationally, all the gas pipeline routes have been divided between the central boards and the associations for the entire five-year plan. Within their section, the central board or the association distributes the route and areas for the compressor stations among the subordinate trusts and administrations that, in turn, distribute the volumes of work finally among the executors, the lines, mobile mechanized columns and sections.

The creation of a single gas pipeline corridor will solve many technical questions in a more economical variant with the preservation of the same degree of operational reliability. The volume of auxiliary-service buildings and rooms will be considerably lower. The number of multiple-branch junctions through large rivers can be reduced, and in the majority of cases, the system of electrochemical protection can be combined, etc. The volume of housing and cultural-general construction should also diminish with preservation of a high level of comfort.

It is possible to introduce industrial construction methods into practice. The fabrication of buildings under plant conditions, delivery to the site of assemblies and structural parts ready for installation, and the use of industrial items of a unified series for the compressor station shops also considerably reduce the labor outlays. Improvement in the industrial nature of construction is based on the extensive use of the most advanced gas pumping units which permit construction of compressor shops in a single-story design or to install each gas pumping unit in an individual shelter.

Increase in the construction rates of the gas pipeline system also depends a lot on the schedules and completeness of the technical re-equipping of the organizations of the Ministry of Construction of Oil and Gas Industry Enterprises. It is required to make extensive use of the heavy pipe-layers with lifting capacity to 80 T, excavators with bucket capacity of 15-25 T, self-propelled machines for cleaning and insulating the large diameter pipes, machines for bending pipes of diameter 1020-1420 mm, units of horizontal drilling for laying sleeves 1720 mm in diameter, watch buses based on the Ural-375 and GAZ-65 cars, and other machines and mechanisms.

The dissemination of the progressive methods of pipe welding, and primarily electric contact welding is very important for improving the rates of laying main gas pipelines. The use of the achievements of science and technology in the area of pipeline construction must be combined with new organizational forms of managing the construction and installation operations. This means complexity of the construction-installation subdivisions with the specialization of individual types of operations in a large mechanized comprehensive production line.

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PLANS FOR ASTRAKHAN' GAS-CHEMICAL COMPLEX OUTLINED

Moscow STROITEL'STVO TRUBOPROVODOV in Russian No 2, Feb 82 pp 4-5

[Article by M. Kh. Khusnutdinov, deputy minister of construction of oil and gas industry enterprises of the USSR: "Creation of a New Gas-Chemical Complex"]

[Text] "The Basic Directions for Economic and Social Development of the USSR for 1981-1985 and for the Period to 1990" approved by the 26th CPSU Congress stipulate the formation in the 11th Five-Year Plan of an industrial center for extraction and reprocessing of gas and condensate, as well as for the production of sulfur based on the Astrakhan' gas condensate field.

Development of this field is extremely important for the further development of the fuel power engineering of our country. At the same time, the creation of a large gas-chemical complex will be a weighty contribution to solving the food program. It will promote an increased production of mineral fertilizers for agriculture.

The collectives of the Ministry of Construction of Oil and Gas Industry Enterprises have been set the task of developing the first phase of the Astrakhan' gas condensate field already in the current five-year plan. It remains to build up the gas field, supply gas from the wells to the gas refinery, and build pipelines to transport gas and condensate from the refinery to the consumers.

It is planned in building up the field to lay to the 56 gas wells gas pipeline loops of unpurified gas from pipes 133 x 18 mm and 168 x 22 mm, gas pipelines of purified gas to drive the gate valves on the well heads, inhibitor pipelines of corrosion, and pipelines for industrial water. It remains to build automobile roads and power transmission lines. It is necessary to erect units for preliminary gas preparation, and lay pipelines connecting these units to the gas refineries. It is in the plan to create the Astrakhan' gas-chemical complex to build a main gas pipeline Astrakhan' gas refinery-Astrakhan'-Kamysh-Burun extending 360 km, main condensate pipeline (580 km), pipeline to feed carbon dioxide to the oil fields of the Gur'yevskaya Oblast (630 km), and other facilities associated with the transport and use of carbon dioxide.

During the construction of the pipeline system, it remains to lay two lines (main and reserve) of the gas pipeline and three lines (two main and one reserve) through the Volga and the Volga-Akhtubinsk floodplain. The length of each is 24.4 km.

In 1982-1984, it remains to build a gas pipeline branch for gas supply for the left bank area of Astrakhan'directly in the Volga-Akhtubinsk floodplain. A total of about 1000 km of main and over 500 km of field pipelines will be laid. It remains to build housing, facilities of cultural and general purpose, and create the necessary base for the sector organizations.

In order to solve this task, the Glavneftegazstroy has been designated the general contractor for construction of facilities to build up the field. It has the experience of erecting three phases of the Orenburg gas complex and developing the oil regions of West Kazakhstan.

Organizational and preparatory work for developing the gas complex has been entrusted to the Mangyshlakneftegazstroy trust.

Work has begun to build the field cities, unloading platforms and pioneer base.

The plans for the bases and settlements made by SibNIPIgastroy [Siberian Scientific Research and Planning Institute of Gas Pipeline Construction] took into consideration the further industrialization of construction, the use of light-weight structural parts and block-complete devices.

It is also planned to transfer a large part of the work for installation and insulation of the field pipelines to base conditions where enlarged assembly, pipe welding thermal treatment of the welded connections and anticorrosion insulation of the sections will be done.

The specific nature of the gas field which contains a considerable quantity of corrosion-active components (hydrogen sulfide and carbon dioxide) dictated the need for a set of scientific research and experimental design work currently being fulfilled by the scientists of the Ministry of the Gas Industry and the Ministry of Construction of Oil and Gas Industry Enterprises. The purpose of the studies is primarily to increase the reliability of the systems for collection and transport of unpurified gas. The necessary instructions and recommendations are being formulated for the technology of pipeline construction. These additional measures are aimed primarily at detecting and eliminating defects in the welded connections.

Construction of power transmission lines, electric installation operations at the housing and cultural-general purpose facilities and production bases of the construction organizations has been entrusted to Glavneftegazelektrospetstroy. The main gas pipeline and the condensate pipeline together with all the facilities will be built by the organizations of Glavyuzhtruboprovodstroy. The supply junctions will be laid by the collectives from the association Soyuzpodvodtruboprovodstroy. The installation and special operations on the units for preliminary gas preparation have been entrusted to the USSR Ministry of Installation and Special Construction Work.

The construction of houses in Astrakhan' will be done from parts manufactured by the plant of the Orenburgneftegazstroy trust which has been entrusted with installing houses on the spot.

Specific measures have been formulated and approved for development of the Astrakhan' gas condensate field which not only stipulate the solution of tasks for the preparatory period, but also allocation of the necessary material and technical resources, worker and engineering and technical cadres.

The successful development of the Astrakhan' gas condensate field requires smooth work and close interaction of all the ministries and departments who are participating in the creation of this complex.

The Ministry of the Gas Industry needs to accelerate the output of planning-estimate documents, the Ministry of Transportation Construction needs to reduce the schedules for construction of approach railroads to the bases of the construction industry, and the USSR Ministry of Communications needs to complete the route for shipping large-panel house construction parts from Orenburg to Astrakhan'.

The workers of the Ministry of Construction of Oil and Gas Industry Enterprises jointly with the workers of the other sectors will do everything necessary to successfully fulfill the assignments for the creation of the Astrakhan' gas complex.

The development of the Astrakhan' gas condensate field, a major raw material base for the country, will become a specific contribution to the implementation of the tasks defined by the 26th CPSU Congress.

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WORK STATISTICS PRESENTED FROM SURGUT-POLOTSK PIPELINE CONSTRUCTION

Moscow STROITEL'STVO TRUBOPROVODOV in Russian No 2, Feb 82 pp 27-28

[Article by V. I. Gushchin, Orgneftegazstroy: "Organization of Construction of the Surgut-Polotsk Oil Pipeline"]

[Text] In order to satisfy the growing demands of the national economy for oil and petroleum products, the Surgut-Polotsk oil pipeline was built. The technical draft for its construction was developed by the institutes of Giprotruboprovod [State Order of the Red Banner of Labor Institute for Planning Main Gas Pipelines] and UkrigproNIIneft' [Ukrainian State Planning and Scientific Research Institute of the Oil Industry].

The oil pipeline route (3250 km) passes for a considerable length in a wooded and swampy locality. The total length of the swamps is 411 km, of them, 152 km of swamp is over 2 m deep. A total of 2120 km of route have been cleaned from forest and bushes with total area of 6794 ha. An area of 1630 ha has been recultivated. During the construction of the oil pipeline, 1438 junctions were built through artificial and natural barriers, including 210 transitions through rivers, 228 under railroad and car roads, and 335 through underground pipelines. On the swamps and flooded sections, 510 km of log roads were laid. In digging trenches, 33 million m^3 of ground were worked, including 5 million m^3 of frozen ground and 250,000 m^3 of rocky ground. A total of 277,000 butt joints were welded and 218 assemblies of line valves were installed. A system of electrochemical protection and power transmission lines were built.

In order to control the oil pipeline, a cable line of technological communication was laid.

For the first time in domestic practice of pipeline construction, an oil pipeline was built with an automated control system. The system of automation and remote control guarantees the operation of pumping stations without constant attendance of the service crew, monitoring the condition of the rooms and accident prevention, remote control of the gate valves, automatic protection of the reservoir from overflowing, measurement of the quantity of pumped oil and oil fed through the branches, automation of the boiler house, assembly of drainage structures and system of fire extinguishing, telemechanization of the oil pumping station and the line section of the oil pipeline.

The route of the oil pipeline is serviced by helicopter patrol. Therefore helicopter pads and platforms for landing small airplanes were built at the gate valves at large rivers, at the oil pumping stations and in other places. The oil pipeline was built in several stages and simultaneously in a number of regions with successive start-up of the large sections.

The oil pipeline was built in the following sections: Surgut-Perm' (0-1257 km, 1977-1979), Perm'-Gor'kiy (1257-2077 km, 1980), Gor'kiy-Yaroslavl' (2077-2447 km, 1980), Yaroslavl'-Andreapol' (2447-2960 km, 1980-1981), Andreapol'-Polotsk (2960-3250 km, 1979-1981). Data on the duration of the construction of these sections are given in the table.

As is apparent from the table, the Surgut-Perm' section was built with a decrease in the standard schedules by 20 months. The other sections were also built ahead of schedule. The total national economic effect from early start-up of the oil pipeline was R 345 million. One hundred and one comprehensive production lines worked during the construction of the oil pipeline. They included three lines from the Polish People's Republic who built the Andreapol'-Polotsk section. Data on the length of the sections in the lines are also presented in the table.

Analysis shows that every third comprehensive line worked on a section up to 20 km long, and only 1 out of 10 lines constructed a section over 50 km long. In the greatest number of lines (43), the length of the section fluctuated from 20 to 35 km. The selection of sections of short length not only impairs the economic indicators, but also does not guarantee fulfillment of the proper volume of work. Thus, the 33 lines working on the short length sections (up to 20 km) constructed only 450 km of the oil pipeline, while 10 lines working on sections over 50 km long laid 753 km of the oil pipeline.

The creation of lines of short length was due to the need to eliminate the lagging in line operations of individual sections. These lines were generally insufficiently supplied with construction equipment.

The daily rate of the comprehensive line fluctuated in a broad range, from 0.1 to 2 km. The daily average rate of the line operations was 0.2-0.8 km. The greatest success in the summer was achieved by : line No 12 of the welding-installation trust, 20 km (July 1980), line No 9 of the Mosgazprovodstroy, 15 km (June 1980), and in the winter, the line of Omsknefteprovodstroy, 33 km (March 1979). It should be noted that 2200 km of oil pipeline were built during the winter.

The work during the winter on the section 513-1257 km was organized especially efficiently by Glavvostoktruboprovodstroy. During January-April 1979, 600 km of oil pipeline were laid. The work rate in March 1979 on the section of Glavvostroktruboprovodstroy reached 293 km. The number of working days for all operations was 24-27 per month.

The number of working days not only influences the monthly work rates, but also indicates the level of work organization in a certain line. Thus, in December 1980, on the Yaroslavl'-Andreapol' section, all the lines were

Duration of Construction of Oil Pipeline and Distribution of Lines according to Length of Sections

Section	Length of section km	Duration of construction month		Averate rate, km/month		Number of lines		Number of lines according to length of sections (in km)						
		stand.	act.	stand.	act.	calc.	act	0-10	11-20	21-35	36-50	51-80	81-100	100
Surgut-Perm'	1257	48	28	26	45	33	35	-	1	20	11	2	1	-
Perm'-Gor'kiy	820	24	21	34	39	16	19	2	2	7	-	6	1	1
Gor'kiy-Yaroslavl'	370	15	7	25	53	20	20	1	15	4	-	-	-	-
Yaroslavl'-Andreapol'	513	20	12	26	43	21	24	3	9	12	-	-	-	-
Andreapol'-Polotsk	290	12	20	24	15	3	3	-	-	-	-	-	1	2

in the same weather conditions. However the number of working days in lines for insulation differed drastically. Whereas in line No 2 of trust Bryansktruboprovodstroy 16.5 km of oil pipeline were insulated during the 21 days of December 1980, line No 11 of the trust Kuybyshevtruboprovodstroy worked only 5 days on insulation in December and only insulated 2.4 km. In the 6 lines on this section, insulation operations were conducted for 20 days and more in December, and less than 12 days in 5.

In this case, the reason for the lengthy lags in the insulation columns was the poor organization of work. Taking into consideration that in the construction regions, the average time of precipitation is no more than 2 h per day, with proper supply of drying furnaces for the column, the effect of weather on the insulation rates could be eliminated.

When the pipeline was built on the Surgut-Perm' section, comprehensive lines and production columns were involved that were subordinate to different specialized trusts. On the Yaroslavl'-Andreapol' section, production lines were working whose main production columns were subordinate to one comprehensive trust.

Practice has demonstrated that the creation of comprehensive trusts fosters the elimination of a number of organizational difficulties which are present in the operation of the columns of specialized trusts in a comprehensive line. The comprehensive trust is the general contractor for construction of the pipeline section. It goes without saying that control of the comprehensive line was simplified. However, the comprehensive line is formed from three production sections which are subordinate to different construction and installation administrations. All have separate cities, warehouses and cafeterias.

Thus, the material and people resources as before are in different organizations, and their mutual use requires the same design as before. The responsible representative of the trust who regulates the relationships between the sections in the line is generally appointed the head of the comprehensive line. However, he does not have the right to one-man management in the comprehensive line. The head of the comprehensive line must be the first at the route, must organize the arrangement of the city, bases, etc. In the construction of the Surgut-Polotsk oil pipeline, the head of the line usually came to the route 2-3 months before the end of the work, called the heads of the construction-installation administrations or their deputies to assist him. Practice has demonstrated that the head of the construction-installation administration or the construction administration must be on the section no more than 10-15 days to become acquainted with the situation, planning and implementation of the necessary organizational and technical measures.

Work of the comprehensive line in the construction-installation administration is the most effective. Such a line has been set up at SMU-1 of Lengazspetsstroy and has been located in Likhoslavl'. The head of the section N. V. Yevdokimov (he is the head of the line) supervised all the line operations: earth-moving, welding, insulation, etc. There were 180-200 people working in this comprehensive line. All were located in one field city (one warehouse, etc.). One-man management permitted organization of work in the comprehensive line on a single order.

During the oil pipeline construction, rayon construction headquarters were in operation in Tyumen', Perm', Gor'kiy, Yaroslavl' and Torzhok. The Orgneftegazstroy compiled plans for the organization of construction as applied to each rayon. The headquarters in Perm' operated successfully.

A general shortcoming in the activity of all the headquarters was the late beginning of active supervision of the comprehensive lines. Some comprehensive lines and their production columns were rebased on their sections 2-4 months behind schedules set by the directive schedule. This resulted in a lagging in individual lines, and as a result, the need to "transfer" equipment and people from other trusts.

It should be noted that the collection of dispatcher information and helicopter survey of the route do not produce accurate information about the course of line operations. Specific monitoring of the line work requires that the headquarters be given (for three-four lines) its own authorized representative who would be in these lines.

It is expedient to regulate and hold selector meetings. They must not last over 1 h so that the efficient activity of the section heads is not reduced. The selector meetings should not repeatedly collect information about work that has been done by the line.

The distribution of construction sections to the trusts was not sufficiently well thought out in the construction of the Surgut-Polotsk oil pipeline.

The volumes of work should be distributed so that the lines of the trust are arranged in sequence after each other. This fosters better supply of the lines with the necessary resources and more efficient use of the equipment and people.

A considerable number of the production lines were completely supplied with planning and technological documents. They had production charts of Orgneftegazstroy and the trusts. The welding-installation work was supplied with the production documents on a good level, while for the earth-moving and insulation operations in certain lines there was not a full set of production documents. Experience has shown that the correction, and in a number of cases, the development of the planning-production documents at the section yields a positive effect. In this case, the equipment available at the section is used more completely and technological decisions are made which take into consideration the specific operating conditions.

The active comprehensive lines have from 40 to 90 units of basic construction equipment. When a number of sections were laid with diameter of 1020 mm, a considerable quantity of heavy equipment was used without the proper substantiation. Heavy bulldozers were often used to clean the route of snow, small trees, bushes and other operations.

The heads of the lines and heads of the production sections need to be more interested in reducing the quantity of employed equipment. In the rapid monitoring on the part of the headquarters and in the evaluation of the monthly results of the line work, the number of construction machines is practically not taken into consideration. Comprehensive cost accounting lines or sections should be set up to improve the efficient use of the construction equipment.

When there is no second shift, the time for use of construction machines is less than half of the calendar month. For a considerable improvement in the work rate, all the basic production columns with two-shift staff of workers and engineering-technical workers should be sent to each comprehensive line.

The conclusions and suggestions made in analyzing the organization of construction of the Surgut-Polotsk oil pipeline should be taken into account in building other similar facilities.

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METHODS, DEVICE FOR BENDING THIN-WALLED PIPES

Moscow STROITEL'STVO TRUBOPROVODOV in Russian No 3, Mar 82 back cover

[Article: "Method and Device for Bending Thin-Walled Pipes"]

[Text] The All-Union Scientific Research Institute for the Construction of Main Pipelines has developed a method and device for cold bending of thin-walled, large diameter pipes which are designed to build curvilinear sections of main pipelines. The method can be realized on the existing domestic and foreign pipe-bending machines.

The method and device guarantee bending of the high-strength, thermally-reinforced pipes, including spiral-seam 1020-1420 mm in diameter with relative wall thickness 0.008 of the rated diameter of the pipe and with yield stress of the material of the pipe steel to 550 MPa.

The suggested method makes it possible to produce branch pipes with bending radius of 45 diameters of the pipe and ovalness of no more than 1.5%.

The summary bending angle of the thermally-reinforced spiral-seam pipe 1020 mm in diameter, 11 m long with wall 9 mm thick made of 17G1S steel is 4°10'. The two-pipe section 22 m long can be bent at a 16° angle.

For all technical questions write to: USSR, 117049, Moscow, Zhitnaya ulitsa, 14. Administration of Foreign Relations, Ministry of Construction of Oil and Gas Industry Enterprises.

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